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Original Communications.

TRACHEOTOMY IN CROUP:

WITH REMARKS ON

THE PATHOLOGY, DIAGNOSIS, PROGNOSIS AND TREATMENT OF THE DISEASE, AND THE CAUSES OF DEATH IN FATAL CASES; WITH A REPORT OF THIRTY-FIVE OPERATIONS.

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PART I.

THE article herewith presented is designed to illustrate some of the more important facts in relation to croup. The subject is an important one. Hundreds of children in this city alone annually perish from this dread malady, many of them without a final effort being made to rescue them from death by suffocation; and this, too, in spite of the fact that tracheotomy is the most successful method of treatment hitherto devised. The accompanying histories of cases are full, but uncolored. They exhibit the different types of membranous croup as it has prevailed in this city during the last few years, and especially the course it pursues when the lives of its victims are prolonged by tracheotomy. To those interested in the subject, the details will not, I believe, be considered unimportant. The labor required in compiling these notes can only be appreciated by those who have done similar work. The remarks following have been suggested by clinical observation. It will be a satisfaction to know that the paper contributes, in any degree, to the better understanding of this terrible disease.

CASE I.—M. M——, female, Irish, three and a half years old; previously healthy. Had been sick three days with hoarseness and croupy cough. Until last night the mother did not consider the child in danger. During the night she got very much troubled for breath, and has since been getting worse. Emetics had been tried with negative results. I found her with flushed face, head thrown back, and labored, stridulous respirations. There was supraclavicular and epigastric depression with each inspiration. Her pulse was 120; respiration, 40; temperature, 103°. No swelling about the neck. The fauces presented nothing abnormal on inspection; no congestion, no membrane. The lungs were generally tympanitic on percussion, and all ascultatory sounds masked by the laryngeal. Tracheotomy, under chloroform, was at once performed, Drs. A. C. Graham and E. A. Maxwell assisting. No membrane was seen during the operation. The relief was complete, and everything remained favorable during the following twenty-four hours. The respirations and pulse became less frequent, and the temperature fell to 101.5°. Forty-eight hours after the operation the temperature had risen to 102.5°; the respiration had become somewhat sawing in quality and more rapid. There was a profuse discharge of muco-purulent, though not bad-smelling matter, through the tube, and the inner canula needed frequent cleansings. Occasionally, a teaspoonful of warm water was poured into the tube, which gave temporary relief by exciting violent coughing, and thereby expelling small pieces of membrane and other obstructing material. The disease slowly progressed downward, and she died eighty-two hours after the operation, dyspnœa being the most prominent symptom during the last day of life. There was no swelling of the tonsils nor lymphatics of the neck, and no membrane was seen either on the wound or in the pharynx during the progress of the case. The treatment consisted in the internal administration of a solution of five grains of chlorate of potassa every two hours and the free use of stimulants and nourishment. The temperature of the room was kept at about 80° F., and the atmosphere impregnated with steam. No case of diphtheria or croup had preceded this (which was in a tenement-house), and none followed it, at least for several weeks, although two young children of the family were in the same rooms while the sister was sick.

CASE II.—L. F——, two and one-half years old, of Irish parentage, had been sick two days. Loss of appetite, fever, sore throat, gradually increasing hoarseness with dyspnœa, worse at night, had been the symptoms noticed. I saw her in the evening with the attending physician, Dr. Burton. She had a flushed countenance, dry, barking cough, stridulous breathing, and moderate dyspnœa. Temperature, 103°; pulse, 120. No membrane to be seen either in the throat or nares; no swelling of the glands. General appearance not indicative of systemic poisoning. Tracheotomy was performed at once, and afforded complete relief. No membrane seen during the operation. The following morning there was some swelling of the neck, so as to render it necessary to loosen the tapes, and a portion of the wound gaped. The temperature was 103.5°, and the pulse 130. Both tonsils were covered with a grayish membrane, and the child's general condition unfavorable. In the evening of the same day the neck had become enormously swollen; there was a thin, fetid, acrid discharge from the anterior nares; the surfaces of the wound and both the hard and soft palate were covered with a thick, blackish-gray membrane. Her extremities were cold and the pulse was very rapid and feeble; there was also internal strabismus of the left eye, the conjunctiva of both being injected and swollen. The countenance had a leaden hue. During the night she had several convulsions, in the last of which she expired, thirty-six hours after the operation. No other children in the family. The treatment consisted in the administration of a solution of chlorate of potassa and the muriated tincture of iron, and stimulants. The temperature of the room varied. Steam was constantly evolved from a kettle of boiling clothes in the room during the child's sickness.

CASE III.—Jacobs, male, four years old; a previously strong and healthy child; was first seen by me April 29, 1874. He had been sick four days with slowly progressive croup symptoms. No vomiting, and no marked constitutional disturbance.

Thirty-six hours before I saw him, in the evening, he began to suffer from dyspnœa, which had been steadily getting worse. He was well advanced in the second stage when I saw him. Face pale, cold, and perspiring; lips and fingers blue; great dyspnœa. No swelling of the neck, and no membrane to be seen. Pulse rapid and feeble; temperature, 103°. Drs. V. P. Gibney, Jacob D. Rogers, and N. G. McMaster assisted me in performing tracheotomy, about an hour later. The operation was simple and bloodless, and gave complete relief. Ten hours later he seemed to be doing well: pulse, 130; respiration, 32; temperature, 102°. The following morning (April 30th), twenty-four hours after the operation, he had more fever: pulse, 150; respiration, 34; temperature, 103°. Evening: pulse, 140; respiration, 42; temperature, 102°. Some erysipelas around the lower portion of the wound. May 1st, 10 A.M.: pulse, 140; respiration, 40; temperature 102°. Erysipelas now involves the whole of the upper surface of the chest. 10 P.M.: pulse, 140; respiration, 40; temperature, 103. Erysipelas about the same. The child is very restless, the cough constant and harassing, and the respiration "sawing." As I thought there might be less irritation if the tube were out, I removed it, and cut out a piece of the trachea about half an inch square. About 2 o'clock the following morning I was sent for, because the child was supposed to be dying. I found him pulseless, with face livid, eyeballs turned upward and pupils widely dilated, and respiration nearly suspended. The cause was apparent. He had turned his head half around, so as to twist the neck and so bring together the lips of the external wound in the neck, almost completely shutting off the admission of air to the lungs. By simply untwisting the neck the respiration soon became re-established, and all of these terrible symptoms rapidly disappeared. As no improvement had followed having the tube out, and as this accident might again happen, with only stupid people to watch the child if it remained out, I replaced it. The cough was so harassing and the dyspnœa so great, that I resorted to various plans for the purpose of modifying them. Water poured into the trachea would temporarily relieve, but the exhaustion following the violent cough excited by this procedure more than counterbalanced the good obtained. Clearing the trachea and primary bronchi, by means of a small sponge fastened to a delicate pair of laryngeal forceps, was discontinued for the same reason. The only satisfactory relief was obtained from the direct inhalation of either simple or lime steam. In spite of all efforts, however, he died in the afternoon of the same day, seventy-six hours after the operation, dyspnœa remaining the most prominent symptom to the last. Four other young children in the family were constantly by his crib during his sickness, but did not subsequently suffer from the disease. Chlorate of potassa and the muriate of iron, and stimulants, made up the constitutional treatment in this case.

CASE IV.—This was a delicate male infant, one year old. He had been ill of naso-pharyngeal diphtheria for several days, but the laryngeal symptoms had been observed only twenty-four hours preceding the time that I saw him with Dr. Burton. Although suffering from grave systemic poisoning, we thought it right to give him the chance of an operation, as laryngeal dyspnœa was, at that time, the predominant symptom. Drs. Burton and J. D. Rogers assisted me in doing tracheotomy. Twice during the operation respiration became suspended, and was again restored by the method of Marshall Hall. Several pieces of membrane were removed from the wound in the trachea before introducing the tube. He came out quickly from the chloroform, and was doing well when we left. Three hours later he suddenly stopped breathing, and his face became livid. His mother attempted to remove the tube, but did not succeed—being too much frightened, and immediately sent for the doctor; when Dr. Burton arrived the child was dead. On removing the tube he found it completely occluded by a piece of membrane.

CASE V.—P. T. L., age seven years, complained of sore throat on Friday night. On Saturday he had some fever, and during the night the mother noticed that he breathed hard. Sunday he was in bed, and for the first time was observed to be a little hoarse. Monday he was about the room, though still hoarse, and at night his breathing was more obstructed. Tuesday morning I saw him. He was then breathing with great effort, and was somewhat cyanotic. No swelling of the neck or glands, no congestion of the fauces, and no membrane to be seen. Pulse, 140 and strong; temperature not taken. I proposed tracheotomy. Emetics of various kinds had been given without result. A consultation was held, at the request of the parents, with Drs. M. Herzog and H. F. Walker, who fully agreed with me in regard to the case, and kindly consented to assist in the operation. No accident happened during its performance, and the relief was complete. Four hours after the operation the temperature was 102°, and the pulse 140. The following day the respiration became hurried and sawing, the pulse steadily increased in frequency, and, although several large pieces of membrane were expelled through the tube during the day, no relief followed. Wednesday night there was some nausea and vomiting, great restlessness and dyspnœa. The anxious, cyanotic countenance, and terrible struggles for air, were very painful to witness. Death took place at 5 A.M., Thursday morning.

No membrane appeared above the larynx during the progress of the disease, and there was no swelling of the cervical glands. A solution of chlorate of potassa was given after the operation. Either steam, or the vapor of lime, was perseveringly used until a few hours preceding death. A young child of the same family escaped infection, although allowed to remain with its sick brother.

CASE VI.—G. D——, aged six years, was taken suddenly ill in the evening with fever, sore throat, nausea, and vomiting. During the night he was restless, and at times would complain that he could not get his breath. In the morning following there was some hoarseness, and the attacks of dyspnœa became more severe and prolonged. In the afternoon he suffered constantly with exacerbations, during which the parents several times thought him to be dying. I saw him at four P.M. He then had labored, whistling inspiration, accompanied with infrasternal and supraclavicular depression, while expiration was comparatively easy and noiseless. Both tonsils and the soft palate were very much swollen, and of a dark mahogany color, but I saw no membrane. The temperature was 102°, and the pulse 120. I did not think it safe to await the trial of medicine, and did tracheotomy at once, Drs. W. A. Hawes and W. A. Fanning assisting. Chloroform, as usual, diminished the dyspnœa. No membrane was seen during the operation. Respiration became easy, slow, and noiseless soon after the tube was introduced. The next morning the patient was bright and doing well, but the sutures had all given way, and the parts about the wound were infiltrated and red. On the second day after the operation the temperature was 101°, respiration 24, pulse 110. Wound was covered with a thick yellowish white membrane, a specimen of which was examined by Dr. Delafield. There was considerable cough and expectoration through the tube, but, otherwise, the patient was doing well. Swelling of the throat diminishing. Stenosis of the larynx about the same as before the operation. From this date the case progressed favorably. The tube was removed on the fifth day. Membrane remained on the wound until the seventh day, and while it remained, there was no attempt at cicatrization. But as soon as it disappeared the opening closed rapidly, so that by the twelfth day respiration was carried on entirely through the larynx. Chlorate of potassa, iron, and stimulants were given internally. No local treatment except a pad of oakum over the wound after the removal of the tube.

Case VII.—T. E——, a delicate boy, twenty-three months old, was seen first on the 8th, and had then been sick two days. Had had some fever, but had refused food because it hurt his mouth. He lay listless in his crib, the saliva dribbling from his unclosed mouth, and a profuse discharge of mucus from the nose. The whole buccal membrane was studded with small ulcers, the pharynx was entirely covered with membrane, and a small patch was observed on the left tonsil. Temperature 100°.

9th.—Membrane has extended over both tonsils, and there is growing hoarseness, with croupy cough.

10th.—The laryngeal symptoms have steadily increased, and there is now urgent dyspnœa. Tracheotomy was suggested to the parents as affording the only chance of saving the child, but it was not urged. The mother said : "If it will save suffering only, do it." Before the operation the respirations were 48 per minute. Chloroform was given, and a tube introduced without delay. Membrane could be seen lining the trachea after it was opened, but was too soft to strip off. The breathing immediately became easy and noiseless, but remained rapid—44 per minute—although there were no physical signs of lung-infiltration.

11th.—Very little change in the patient's condition until this afternoon, when the neck and face began to swell, and the respirations to become noisy. The temperature rose to 102.5° and the pulse to 160 per minute. Refuses food and medicine.

12th.—The swelling of the neck increased from yesterday, and life terminated in a convulsion at noon to-day. Chlorate of potassa and iron were given freely as long as the patient could be induced to take anything. An elder brother had a mild attack of diphtheria and recovered.

Case VIII.—K. McK——, three and a half years old, had been sick with naso-pharyngeal diphtheria four days when croup developed, and I saw her still a day later. The croup was then far advanced in the second stage. Chloroform was given by Dr. W. A. Hawes, with his usual care and excellent judgment. Everything progressed favorably with the operation until a moment or two after the tube was introduced, when, the anæsthetic having meantime been withheld, the patient's respiration suddenly ceased, her pupils dilated, and the body became limp and motionless. The head was immediately lowered, and artificial respiration resorted to ; but, although we continued our efforts some fifteen or twenty minutes, we did not succeed in restoring animation. Permission was given us to prolong the tracheal incision and examine the interior of the larynx and trachea. Both were lined with a soft, adherent, grayish white membrane, but no detached pieces were seen.

Case IX.—On the 8th of December, Kate L——, a fair-haired, slender little girl, æt. six and a half years, was sent to St. Francis's Hospital by Dr. Schlereth, my house physician. She had then been sick eight days. The earlier symptoms had been loss of appetite, fever, vomiting, and painful deglutition. On the third day of her sickness white specks were observed on the tonsils by the mother, and the family barber was called in. December 5th, the throat symptoms had become much worse, and a croupy cough with dyspnœa was developed. Free emesis by means of squills afforded temporary relief, but the following day (December 6th) the difficulty in respiration had become alarming, and Dr. S. was sent for. He found the patient with a pulse of 150 and temperature of 103°. The face was cyanotic, breathing labored and stridulous, neck swollen, and soft palate, and tonsils partially covered with a whitish membrane. He ordered an emetic of sulphate of copper, which resulted in the expulsion of a firm, tough, cylindrical piece of membrane, two inches in length and one-quarter of an inch in diameter. Marked relief followed, and for several hours the child continued to do well, but during the night the laryngeal symptoms became aggravated. December 7th, her pulse was 160, respiration 30, temperature 103½°, and she suffered much from dyspnœa. Emetics were again resorted to, but with negative results. Temporary relief was afforded by giving chloroform and vapor of lime by inhalation. When brought to the hospital the following day, there was complete aphonia, labored respiration, with the usual supraclavicular and epigastric depressions during inspiration. Her face was pale and anxious, and lips livid. There was nothing abnormal to be seen in the anterior nares, but both tonsils were swollen and partly coated with a yellowish white membrane. There was tympanitic resonance on percussion over the greater part of both lungs. Conveyed sounds from the larynx, and large mucous and sonorous râles, were all that could be heard on auscultation. Chloroform was now administered preparatory to tracheotomy, which immediately modified the labored breathing. The trachea was reached without difficulty. On opening it and introducing the dilators, a large amount of frothy muco-purulent matter welled up through the wound, and, a moment later, a large semicylindrical piece of membrane was coughed up into it, but before it could be caught it was sucked back by the inspiratory act, and the breathing suddenly stopped. A violent cough followed, the membrane was again thrown into the opening, and this time seized with a pair of dressing-forceps and removed. Several smaller pieces were subsequently expelled, and when all was clear the canula was substituted for the dilators, and the wound of the soft parts closed. The breathing soon became tranquil, and all cyanosis disappeared. Vesicular respiration could be heard over all parts of the lungs, accompanied with large mucous râles. Six hours later, in the evening, the temperature was 101°, pulse 120, respiration 30. She had a severe suffocative attack an hour later, which terminated on the expulsion of a portion of detached membrane through the tube. The case progressed favorably till December 12th, when the respirations became somewhat hurried and noisy, although the temperature and pulse were not materially altered. Dr. Edel, our curator, who was present at this time, suggested spraying the air-passages with a weak solution (gtt. xv., ad aq. ℥ j.) of the spirits of turpentine. This was done, and the breathing speedily improved. Its use, ten minutes at a time, at intervals of two hours, was continued for two days, although there was no special indication after the first trial.

December 16th.—Patient has been doing well since last report. Urine has been examined chemically and found to contain a small amount of albumen. Spherical bacteria were seen on microscopic examination of portions of membrane. Removed the tube temporarily, and placed a piece of oiled-silk over the wound, when it was found necessary to replace it as there was still too much laryngeal obstruction.

December 18th.—The larynx was examined to-day with the mirror, and, although considerably congested, was found free from membrane. Tube removed. Some difficulty experienced at first in breathing through the larynx, but after a few hours it became much lessened. The wound closed perfectly in about ten days, and the child was discharged from the hospital. No paralyses were noticed during two weeks following the removal of the tube. Five grains of chlorate of potassa every two hours were given during the first three days, and the same with five drops of mur. tinct. of iron for two days more, and then, no medicines.

Case X.—K., male, æt. five years, was thought to have a cold in the head a week ago (Oct. 26, 1875). Dr. Hawes was called yesterday and found the child hoarse and also slight laryngeal obstruction. To-day (Nov. 2d) there is great dyspnœa with complete aphonia. No glandular swelling nor cellular infiltration. A small patch of membrane adheres to the left tonsil; pulse, 140; respiration, 30; temperature, 103°. Tracheotomy at once performed, Drs. Hawes and S. S. Jones assisting. Trachea deep; no hemorrhage or other accident. The boy rallied well from the chloroform and breathed easily and noiselessly. I did not see him again, but learned from Dr. H. that the respiration became noisy and difficult on the second day after the operation, and that death took place on the third day after the operation, with the same train of symptoms as that which usually accompanies a case of unrelieved croup.

This iron and potash mixture was given regularly by Dr. Hawes during his attendance on the case. No steam.

Case XI.—Lottie G——, æt. three and a half years, was said to have had a cold in the head, for four days when I saw her, Oct. 6, 1875. On examination, membrane was seen in both nares and on both tonsils. There was also some engorgement of the cervical glands. She had slight fever, was a little hoarse, but still was playing about the room with other children. 7th.—She had a great deal of dyspnœa during the night, but this morning there is not sufficient obstruction to deter her from engaging in her customary amusements. There is also a diminution of the glandular swelling and also of the membrane on the tonsils. 8th.—Was sent for in great haste at 9 A.M. I found the child moribund. The respiration was irregular and gasping, the pulse almost absent, the extremities cold, the face dusky. Dr. Hawes had also been sent for, but had not yet arrived, and so I began the operation of tracheotomy with the assistance of the father. Dr. H. arrived a moment later and gave chloroform during two or three inspirations; but, as the child did not struggle, it was entirely withheld during the remainder of the operation. No time was lost, and we were soon within the trachea. The dilators were immediately introduced, but respiration stopped, and we were compelled to induce it artificially and continue it for several minutes before it became voluntary. Meantime much muco-purulent matter had been removed from the trachea. The tube was then introduced but accidentally slipped out again as we were applying the tapes, and again respiration ceased. The dilators were then reintroduced and artificial respiration a second time resorted to successfully. Finally, after the lapse of half an hour or so, the tube having been replaced and stimulants given, voluntary breathing was established. Two hours later the child was conscious and had taken nourishment. There was considerable erythema of the neck in the region of the wound, and the surface of the body and limbs was hot; pulse, 168; respiration, 56. 9 P.M.—Pulse, 160; respiration, 62; temperature, 103°. The lungs are clear except a few mucous râles, and there is not much discharge from the tube.

9th, 10 A.M.—The patient has slept well during the night and coughed little. She is bright and cheerful. Pulse, 142; respiration, 40; temperature, 102⅗°. 6 P.M.—Still looking well; pulse, 144; respiration, 36.

10th.—The neck began swelling last evening, and this morning there is great tumefaction, especially about the throat and upper part of the chest, and these parts are also red. A few bullæ have formed in the neighborhood of the wound. There is considerable cough, and a thick, sanguineo-purulent matter, containing also shreds of membrane, is being expelled through the tube. The respirations are free and 24 per minute; pulse, 138; temperature, 102°. The child is still quite comfortable and takes nourishment well. Five drops of the tincture of chloride of iron, to be taken every two hours, were ordered, and a solution of carbolic acid to be applied over the erysipelatous parts. 5 P.M.—The redness has extended, but the swelling remains about the same. Child playing with pennies; pulse, 126; respiration, 28.

11th, 10 A.M.—Redness has extended upward, especially on the left side, where it reaches the ear; but it is less intense than yesterday, and the swelling is generally less. The patient had a comfortable night, and still looks well. Cough moderate. On removing the tube and closing the wound, the larynx is found impermeable. 9 P.M.—Some increase of the swelling; otherwise the same.

12th, 10 A.M.—Redness still extending. Some discharge of bloody matter through the tube, and a little from the mouth. Larynx slightly permeable. Pulse, 140; respiration, 20; temperature, 101½°. 9 P.M.—Redness has reached the ears on both sides, and involves the roots of the hair posteriorly. Child still bright. Pulse, 128; respiration, 28.

13th, 10 A.M.—Child playing with her doll. Discharge of pus and blood from tube rather profuse. Pulse, 144; respiration, 28; temperature, 100½°. 6 P.M.—The respiration is noisy and difficult, and the child looks weary and anxious. The cough is very troublesome, and the bronchial and tracheal secretion profuse. Respiration, 36.

14th, 10 A.M.—The respirations are rapid and sawing. The usual signs of bronchial obstruction—depression of the supraclavicular and infracostal spaces during inspiration—are present. The poor, doomed little girl is still trying to play with her pennies and doll, notwithstanding the face is becoming dusky and the extremities cold. It is a sad picture and a very discouraging one!

15th.—Died at 11 o'clock last night.

Case XII.—N——, a feeble boy, twenty-three months old, who had a small, unsymmetrical head, syphilitic teeth, and had not yet learned to talk, had been suffering from croup two days. At the time I saw him (Feb. 6, 1878), the usual signs of laryngeal obstruction in an advanced stage were well-marked, although no membrane was to be seen in any of the air-passages. Pulse, 154; respiration, 32; temperature, 101°. The lungs were tympanitic on percussion. Little true respiratory murmur could be heard, only the laryngeal stridor and a few moist râles. Dr. Milne, the attending physician, and Dr. Daniel Lewis assisted me in doing tracheotomy. Only a small amount of blood was lost during the operation, and this was black and thick. Eight hours after the operation (5 P.M.) the breathing was still rapid, although comparatively easy. By pouring warm, dilute lime-water into the tube and immediately turning the patient on his face, a considerable quantity of muco-purulent matter and shreds of soft membrane was coughed up and the breathing rendered less frequent. The lungs were clear. Pulse, 170; respiration, 50; temperature, 105°. The internal treatment is to consist of small doses of calomel and iodide of potassium three times a day, given separately, and the free use of milk and brandy.

7th, 10 A.M.—Had some diarrhœa during the night, but otherwise was quite comfortable. At six o'clock this morning the breathing became very much obstructed, and Dr. Milne was sent for, but before his arrival the patient got relief, after coughing up "phlegm and some hard, tough pieces." Pulse, 156; respiration, 48; temperature, 102¾°. The specifics to be omitted on account of diarrhœa, and a single dose of six grains of quinine to be given. 6 P.M.—Breathes noiselessly and easily, and has been playing some during the day. Iodide of potassium has been resumed. Pulse, 150; respiration, 48; temperature, 102½°.

8th, 10 A.M.—The cough and expectoration have been excessive, but otherwise his symptoms are rather favorable. Pulse, 132; respiration, 38; temperature, 101°. Medicine discontinued. Temperature of room, 80°. Steam is being constantly evolved from a kettle of boiling clothes. 9th.—Symptoms remain about the same; larynx impermeable. Pulse, 140; respiration, 32; temperature, 101°.

10th, 6 P.M.—A change for the worse. The prominent symptoms are: difficult breathing, restlessness, and great weakness. Wound looks bad. Profuse tracheal discharge. No membrane to be seen except what is expelled through the tube. Tube changed for a longer and larger one, but without much benefit. Pulse, 146; respiration, 44; temperature, 103°. Lungs mostly tympanitic, but some areas of dulness. Breathing asthmatic.

11th, 10 A.M.—Boy steadily getting worse. His countenance is very pale, and his cough feeble. Refuses food. Pulse, 160; respiration, 68; temperature, 101⅘°.

12th.—Died at 1.30 this morning.

Case XIII.—D——, male, five years old, was taken sick January 25, 1878, with fever and vomiting. Dr. Milne saw him on the second day of his illness, and found both tonsils covered with membrane, but the constitutional symptoms so slight as not to compel the patient to take to his bed. After three days' attendance the doctor discontinued his visits, at the request of the parents, they believing the child out of danger, although membrane still remained on the tonsils. The patient continued to do well until February 4th, when a croupy cough was developed. February 6th, Dr. M. was again called on account of supervening dyspnœa. He at once advised tracheotomy, and, the parents consenting, he asked me to do the operation. At this time dyspnœa was extreme and aphonia complete. Membrane on both tonsils. Pulse, 128; respiration, 36; temperature, 90¾°. The operation was unusually difficult, the trachea lying deep, the veins numerous and engorged, and the isthmus very large. The hemorrhage was inconsiderable. A considerable quantity of muco-pus welled up through the wound after incising the trachea, and two large, semicylindrical pieces of tough membrane, half an inch long, were expelled through the opening after introducing the dilators. Soon after the tube was in place, the breathing became easy and noiseless.

February 7, 10 A.M.—Pulse, 152; respiration, 44; temperature, 101½°. Has had a good night, and is bright and playful. Respiration noiseless. 6 P.M.—Pulse, 132; respiration, 44; temperature, 102¾°. Very little discharge from the tube, and the skin is hot and dry; otherwise, condition favorable. A diaphoretic mixture was ordered.

8th, 10 A.M.—Pulse, 138; respiration, 38; temperature, 101⅖°. The boy has passed a restless night. There is a good deal of inflammatory œdema over the upper part of the sternum and anterior aspect of the neck. The skin is moist and breathing quiet. As the tube was not freely movable, it was resolved to replace it with a smaller and shorter one. While making the change, several pieces of membrane were coughed up, one of which was bifurcate. Child gets much exhausted after any little exertion, becomes pale, and perspiration breaks out over the body. 6 P.M.—The swelling of the neck has so much increased that the tube does not reach through the tracheal opening, and serious dyspnœa is the result. The original tube is again inserted with some difficulty; more membrane is expelled, after which the breathing is again easy.

9th, 10 A.M.—Pulse, 132; respiration, 28; temperature, 101⅘°. Another restless night; neck and chest still swollen, and the wound covered with a thick, yellowish membrane. There has been a profuse expectoration of muco-pus and some blood, through the night. Chlorate of potassa, in ten-grain doses, has been given every two hours since the operation, and is still continued. 6 P.M.—Pulse, 140; respiration, 40; temperature, 104°. Local symptoms unchanged. The cough is frequent and dry, but respiration is not harsh, and a physical examination of the chest gives negative results. Ordered five grains of quinine, to be repeated after an hour.

10th, 10 A.M.—During the latter part of the night the dyspnœa became very distressing, and was not relieved by cleansing the inner tube; the parents, therefore, as they had been previously instructed to do, removed both *cannulæ*, and left them out until our arrival. The breathing was still difficult when we saw him, but on reintroducing the tube, violent coughing was excited, a quantity of loose membrane and pus was expectorated, which afforded much relief. 5 P.M.—Pulse, 130; respiration, 38; temperature, 102⅓°. Local swelling diminished. Membrane still on tonsils. Fifteen grains of quinine, in three separate doses, have been given to-day. Steam from a croup-kettle has been constantly breathed since morning, with apparently good effect, and is to be continued.

11th, 10 A.M.—Pulse, 138; respiration, 32; temperature, 102⅗°. General appearance of patient is unfavorable. He lies listless upon his back, and offers of pennies or toys, which have heretofore excited his interest, now produce no effect. The one favorable symptom is unobstructed respiration. The chlorate of potassa is to be temporarily discontinued, and a solution containing a grain of bromine to each dose is to be given every two hours instead. 5.30 P.M.—Condition unchanged. Bromine and steam to be continued.

12th, 10 A.M.—Pulse, 120; respiration, 40; temperature, 102°. The breathing still free, although there has been a profuse expectoration of bloody matter during the night. The tube is perfectly movable within the trachea. Membrane still on both tonsils.

6 P.M.—Redness has extended over the whole of the infraclavicular and left scapular regions, but the swelling about the wound is less, as shown by the puckering of the integuments. His general appearance is better, and his appetite is returning. Bromine to be given every three, and five drops of tincture of iron every two hours, and steam continued.

13th, 10 A.M.—Pulse, 130; temperature, 101°; respiration, 40. Erysipelas subsiding. Considerable hemorrhage through the tube during the night, and this morning an attack of dyspnœa due to plugging of tube with a large clot, which was expelled by coughing. After cleansing the canula, the respirations fell to 28 per minute.

14th, 10 A.M.—Pulse, 124; respiration, 40; temperature, 101½°. Membrane has disappeared from tonsils. The tube was temporarily removed, and a piece of oiled silk stretched over the tracheal opening. Asphyxia immediately supervened, as hardly any air could be obtained through the larynx. Lungs clear. 5.30 P.M.—Pulse, 116; respiration, 36; temperature, 100⅓°. Complete aphonia.

15th, 10 A.M.—Pulse, 120; temperature, 100; respiration, 20. An attempt to make a laryngoscopic examination failed.

16th, 10 A.M.—A tolerably satisfactory examination with the mirror discovers no membrane in the larynx. Tube removed, and oakum applied over the wound. Boy can speak aloud. Temperature, 100.°

17th.—Wound looks well. Patient does not eat so well to-day. Breathes mostly through tracheal wound. Purulent discharge profuse. Temperature, 100½°.

April 19th.—I did not see the patient again after the above report, but learned from Dr. M. that his recovery was perfect, and that the tracheal wound was completely closed in about a week after the removal of the tube.

To be continued.

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ENDORSING HIGHER MEDICAL EDUCATION.—At the last meeting of the Michigan Medical Society, the following resolution was unanimously adopted:

"*Resolved*, That we, the members of the Michigan Medical Society, pledge ourselves, individually and collectively, to support only such schools as require for admission a preliminary examination, and for graduation at least a three term graded course of lectures in three years of study, and that we will use our influence to prevent students from attending any college with an inferior standard of preparation and graduation"

All the medical schools of Michigan have adopted a three term graded course.

RELATION OF NERVE-LESIONS TO MUSCULAR SPASM AND RIGIDITY.

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THE frequent association of motor-nerve incompetency, or paralysis, with muscular spasm and rigidity, cannot for a moment be called in question. Certain lesions of the brain and cord may exist without producing either, and certain other lesions, or rather lesions of certain special tracts, as certainly are attended by both motor paralysis and muscular rigidity. To discuss the relations of such lesions to the muscles, and their character—whether "irritating" (in the sense of evoking increased nerve-power) or paralyzing—is the object of this paper.

M. Charcot attributes "the relative benignity" and usually temporary character of the hemiplegia resulting from lesions of the gray ganglia of the brain (corpora striata, thalami, etc.) to the fact that, owing to peculiarities of their blood-supply, an entire ganglion is rarely affected, and also to the manner in which each of these ganglia aid or supplement the functions of the others ("Local Dis. Brain," p. 78). The same reasons serve to account for the absence of spasm or rigidity under similar conditions. When, however, hemorrhage or other destructive lesion occurs in the peduncle, where motor fibres from a large area converge to form the isthmus, or "internal capsule," a smaller lesion may work much greater mischief, because in this case nervous communication is seriously interrupted or cut off between the gray motor ganglia and the periphery, so that, although "the patient survives, there will remain *persistent paralysis and permanent contractions* (Ib., p. 7).

It is to "truly destructive lesions of the internal capsule"—that is, "to those which either by lacerations or necrosis produce an irreparable loss of substance" (p. 79)—that allusion is here made. Such lesions can hardly be other than of an essentially paralyzing character; and the "paralysis" and "contractions" which follow are fairly assignable to a common cause: that cause being absence of motor-nerve influence, at once releasing the muscle from the control of the will (paralysis) and setting it free from nervous restraint, thereby permitting the free exercise of its inherent property of contractility, and so inducing rigidity.

Is there any mode of escape from such a conclusion as this? Will it be said that, while it is true that normal nerve-force is here arrested, the lesion is the source of an abnormal or morbid nerve-force, which, acting as the *alter ego* or substitute for nerve-force proper, "stimulates" the muscles to contract unduly? Such a supposition requires us to believe that there are two kinds of nerve-force, and that the spurious variety is not of a simply negative character, but that it is a positively acting or effective force, and that it may be evoked and display its activity under conditions which are fatal to nerve-force proper. Surely there is nothing in physiology to justify such a hypothesis!

Or will it be said that at the distal extremity of the destructive lesion an "irritation" is set up in the adjacent healthy nerve-tissue of the peduncle, from which increased energy is transmitted to the cord and thence to the muscles, as the stimulus to occasion muscular spasm or rigidity? Perhaps the best answer to this is to be found in the fact that the lesion under consideration is a type of those cranial lesions which result in atrophy, degeneration, and destruction of certain nervous fasciculi of the spinal cord by the process known as consecutive or secondary sclerosis, as a consequence of which "the cord loses both in the ability to transmit and to generate nerve-force." In this fact, then, is a further bar to any supposed excitation reaching the muscles from the hypothetical "irritation" referred to. Besides, such a source of a *quasi* nerve-power would be necessarily too transient and too feeble to produce the effects witnessed, for, according to M. Charcot, "these lesions produce a motor paralysis almost necessarily accompanied by late contractions" (p. 78), which often continue for months and years.

Then, again, early rigidity often occurs very promptly as a result of large lesions of the brain, "seriously implicating some extent of the cortical gray matter and destroying a considerable area of the subjacent white substance." This rigidity may even occur "while the patient is still in a state of apoplectic or epileptiform stupor" (Bastian: "Paral. from Brain Dis.," p. 154). Now, it cannot be claimed that here the muscular rigidity is due to "irritation" of the cerebral motor centres, because the "stupor" referred to is itself presumptive evidence of paralysis; and besides, Dr. Ferrier holds that this portion of the brain is insensible to mechanical irritation, even when applied in the actual cautery. If, then, muscular rigidity thus occurs in one form of brain-lesion, where a hypothetical "irritation" is necessarily precluded, and is the outcome of an essentially paralyzing process, it is fair to infer that when muscular rigidity follows similar processes destructive of important motor tracts, as in the case of the inner capsule, the same condition predominates, and that, in one case as in the other, there is an absence and not an excess of nerve-action. Indeed, M. Charcot himself, while insisting on the "irritating" character of brain-lesions, finds occasion to interpret the effects of certain "lesions," "hemorrhages," and "tumors" as of a paralyzing character. Thus, he finds numerous examples of such cases, implicating the optic bands, the effect of which is to "*paralyze*" the corresponding portions of the retina, producing hemiopia ("Local," p. 98). Another example of a similar kind is to be found in the same work. In referring to destructive lesions indirectly implicating the peduncular fibres of the internal capsule "in consequence of a lesion limited to the gray ganglia which surround the capsule," these ganglia being the corpora striata, thalami, lenticular, and caudated bodies, M. Charcot says: "Thus, the distention of one of these ganglia in case of interstitial hemorrhage might compress the nerve-fibres that compose the internal capsule, and so *suspend their functions*. But, as the nerve-fibres in such cases are only compromised, and not destroyed, *the paralytic phenomena* resulting from that compression (excepting cases of tumor) would always be temporary" (p. 80).

Why is not the same interpretation applied to other lesions of a still more "paralytic," because more "destructive," character?—such, for example, as a copious hemorrhage into the lateral ventricles, in which (usually fatal cases) spasm and rigidity of the muscles are of very frequent occurrence (Bastian), and in which contractions set in early (Charcot). Here, of course, the corpora striata and thalami, occupying as they do the floor of these ventricles, are both, as well as the other adjacent gray ganglia, more or less seriously compressed and damaged. Here, surely, there is ample occasion for the display of "paralytic phenomena;" and it is safe to say that the idea of an excitation of nerve-centres so conditioned is solely due to the exigency of the theory of the day, which demands increased "nervous discharges" in order to account for the muscular contractions, which it has been supposed could not occur in the absence of such a "stimulus"—a supposition to which accumulated facts give a decided negative.

Again, in acute, chronic, and tubercular inflammation, and in hemorrhage of the meninges of the brain, we have twitchings, convulsions, and contractions of the muscles. Have we not here, in the effusion of blood, serum, or pus, pressing on the psychomotor centres and damaging or destroying the medullary fibres, a sufficient cause for "the suspension of their function" by these several parts, and the consequent absence of nerve-force, which has been elsewhere shown to be a condition most favorable for the free exercise by the muscles of their innate property of contractility? The same considerations apply to suppurative encephalitis, with its purulent collections and disintegration of brain-tissue, and the tonic or clonic spasms which accompany that disease.

Diffused cerebral sclerosis is attended by marked flexions of limbs and other distortions from rigidly contracted muscles. We have here "a condition which essentially consists of *a disappearance of that part of the brain-tissue capable of producing or transmitting nerve-force*, and the substitution of another histological element which is of secondary importance" (Dr. W. A. Hammond: "Dis. Nerv. Syst.," p. 275). Under these conditions is it not plainly to an absence of nervous action, and not to an excess of such action, that we must look as the cause of the spasm and contraction referred to? Surely, if violence is not to be done to physiological principles and to the legitimate deductions to be drawn from pathological conditions, this conclusion is inevitable.

Let us now glance at lesions affecting the spinal cord. Consecutive or secondary sclerosis, the result of primary brain-lesion, especially implicates the lateral white fasciculi. M. Charcot, in drawing a parallel between this and primitive spinal sclerosis, writes: "We have established, in an anatomical point of view, that there exists a very considerable analogy between primitive and consecutive forms of lateral sclerosis; that assimilation can be followed upon the clinical field. It is known, indeed, that *motor loss, contraction of the limbs*, at first transient, then permanent, with spontaneous or provoked trepidation, provide a symptomatic group which reveals during life the existence of primitive fascicular spinal sclerosis that is independent of any cerebral lesion. Now, all the essential characters of these symptoms are reproduced in sclerosis arising from a lesion in the brain—the clinical picture, in fact, of common permanent hemiplegia. It may be said, then, that *there exists a relation between the phenomena of 'permanent contraction' and 'lateral sclerosis,' the physiological reason for which at present completely eludes us*" ("Local. in Brain Dis.," p. 129). (Italics mine.)

This is a remarkable admission, and reveals at once the failure of the theory of the day to account for the relations of nerve and muscle. Nor is the extract a garbled one, for the context has been fully quoted. Now, if M. Charcot will accept a hint from an obscure quarter, and recognize the fact that contractility is an inherent property of the muscle; that the muscle needs no stimulus from the nervous system to enable it to contract; that, on the contrary, the *rôle* of the nervous force is to restrain, or inhibit, muscular contractile power, he will find the missing "physiological reason" at once apparent. "The power to generate or to transmit nerve-force" in the cord is at an end, owing to the atrophy, degeneration, and destruction of nerve-tissue; and nerve-force being consequently absent, the muscles are no longer normally restrained, and pass into temporary or permanent contraction in proportion to their freedom.

M. Charcot, however, seems to have felt the necessity of offering some hypothesis in solution of the "relation" between lateral sclerosis and the late contractions of muscles. Accordingly, after disavowing Dr. Todd's hypothesis as to these contractions having their source in "retraction of the cerebral cicatrices," and that of "very many authors" who have referred the cause to "encephalitis supervening in proximity to the lesion," he states as his own "opinion" that "it is *more reasonable* to attribute it to a chronic myelitis in the lateral fasciculus resulting from the cerebral lesion." He refers to Bouchard for "all the proofs that can be adduced in favor" of this opinion. Now if M. Charcot were himself satisfied with these "proofs," why should he have implicitly stated in the next preceding paragraph that "the physiological reason" explanatory of this state "at present completely eludes us?" It is evident that he perceived here "a missing link," and was conscious that neither the opinion he expresses, nor the arguments which could be advanced in its favor, were satisfactory.

Let us glance for a moment at this sclerosis of the lateral white fasciculi of the cord, which has "a relation" to abnormal muscular contraction. M. Charcot, in his "Lectures on Diseases of the Nervous System," describes the process very elaborately. It consists essentially in degeneration of the nerve-fibres, which results in their disintegration and atrophy—a result which is accelerated by the contemporaneous excessive proliferation of the reticulum of connective tissue or neuroglia surrounding and interlacing the nerve-tubules, which, in the words of M. Charcot, are "compressed on all sides, and strangulated." There is a substitution of connective tissue for the proper nerve-tissue, and even where the axis-cylinders persist for a time, they become attenuated and shrunken (Charcot).

These results are so nearly identical with what takes place in myelitis proper, that for brevity the two conditions may as well be discussed together. Dr. Hammond says of the latter: "Microscopical examination shows the existence of congestion, and, as an essential feature, an increase in the amount of connective tissue or neuroglia of the cord. The evidences of this hypertrophy are seen in the increase of fusiform cells and in the production of multinuclear cells and free nuclei. These formations take place at the expense of the proper nerve-tissue of the cord, the anatomical elements of which undergo atrophy and degeneration. The nervous tubules are thus often disintegrated and their contents disseminated through the extraneous tissue. The axis-cylinders are entirely surrounded by oil-globules, or are altogether broken up and rendered unrecognizable. . . . . When the lesion is in the gray substance, the microscope shows the nervous cells to be broken up, etc." (p. 461). Even in the chronic form of myelitis (as in sclerosis), the changes are still "characteristic of hypertrophy of the neuroglia *at the expense of the proper nervous tissue*" (Ib.). Is it not apparent that nerve-tubes so conditioned are utterly incapable of transmitting their proper motor impulse, and that, so far as they are concerned, their relation to the muscles is that of an absence of nerve-action?

Those who are resolved on finding a source for a stimulus to the muscle, may urge that the motor cells of the anterior gray cornua are irritated and excited by the sclerotic process taking place in the contiguous lateral fasciculi, which pass down the cord in near proximity to the anterior cornua, and have terminal fibres in the latter; and that to such an irritation and excitation of the motor cells of these anterior gray cornua, the spasmodic contraction of the muscles is to be attributed.

The following considerations may be urged in reply:

1. Such a view is inconsistent with the history and course of the disease, which begins in the most important motor tracts of the brain as "a destructive lesion—that is, one capable of interrupting the course of the medullary fibres" (Charcot, "Local.," p. 124), and thence extends into the cord, producing atrophy and arrest of function as it descends. Consistency requires that it should exercise a similar injurious influence over the terminal motor cells, depriving them of their functional activity rather than exalting it.

2. According to Weber, as quoted by Prof. Kuss, "thirty excitations a second are usually required" on the part of a nerve-centre to produce continuous contractions of muscle. Now, the hypothetical excitation of the motor cells of the anterior cornua, under the conditions shown to exist, would surely be inadequate to maintain such a rate of nervous discharges, often during long periods of time.

3. Even were *increased morbid action* shown to be present in these motor cells, this would not imply *augmented functional activity*. A splinter under the nail produces increased morbid action, but it is attended by loss of tactile sensibility. A diseased eye, from sympathetic irritation, displays increased morbid action, but proportionate loss of vision. A too rapidly beating heart, in asthenic cases, has, with the appearance of increased action, lowered functional power, and only accomplishes at two beats what it ought to effect with one. It is needless to multiply examples. Even in the highest forms of irritation—inflammation—our leading English authority, Dr. W. B. Carpenter, assures us there is a *lowering of function*, and it has never been asserted that nerve-tissue furnishes an exception to the rule. This fact supplies an insuperable objection to the hypothesis that during myelitis the nerve-centres are discharging increased nerve-force, and in consequence stimulating the muscles to contract.

4. The objection is further fully met by the fact that abnormal muscular contractions, both transient and permanent, are found present in cases where the motor-cells of the anterior gray cornua are atrophied and destroyed. Cases of this kind have been reported by MM. Charcot and Joffrey, typical examples of which are quoted by Drs. Hammond and Bastian in the works referred to above. The same motor-cells undergo a destructive process in progressive muscular atrophy; in every one of the twenty-nine cases of which, observed by Dr. Hammond, fibrillary contractions were present "in the paretic muscles." A similar degeneration of the cells of the anterior gray cornua occurs in infantile spinal paralysis, which is "similar in several respects to progressive muscular atrophy," and in which "contractions and distortions are much more common" (Hammond). The occurrence of muscular spasm and rigidity during the atrophy, disintegration, and destruction of the motor-cells of

the gray cornua themselves is sufficient proof that the abnormal muscular contraction in question is not due to an irritation or excitation transmitted to these cells as a result of the contiguous lateral sclerosis, which is the view of the case now under discussion.

5. Lastly, any such hypothetical irritation or excitation of the gray substance of the cord is inconsistent with the fact here stated on the authority of Dr. Brown-Séquard, that, like the nerve-fibres of the cerebral lobes, "the gray matter of the cord" is not excitable, and "when irritated it does not transmit anything, because it is not itself impressible" ("Lectures Cent. Nerv. Syst.," pp. 18, 134).

Dr. W. A. Hammond offers his readers a singular illustration of the inconsequence of the theory of the day in this connection, which may not be passed over in silence. "Several authors," he says, "have laid great stress on the occurrence of violent tonic contractions of the limbs" in sclerosis of the antero-lateral (or motor) fasciculi. Dr. H. will not admit this very natural view of the case, but charges the said contractions to "the meningitis which is often an attendant condition" ("Dis. Nerv. Sys.," p. 482). Now, the meninges of the brain do not generate nerve-force, even when inflamed; and as the effect of sclerosis, according to the same author, is such that "the cord loses both the ability to transmit or to generate nerve-force," it is difficult to see from whence can be derived the extra stimulus to urge the muscles to "violent" contractions. The "physiological reason" for such "a relation" between the cord and the muscles most certainly "completely eludes us."

In his "Lectures on the Diseases of the Nervous System" (Sigerson: Lea, Phil., 1879) M. Charcot defines the phrase "irritative lesions" to mean "lesions which determine in the nerves or nervous centres an exaltation of their properties, an irritation, or an inflammation" (p. 9). These lesions give rise to a variety of peripheral nutritive disturbances, for example: in the skin, to herpes, bullæ, and bed-sores; in the viscera, to ecchymoses; in the joints, to rheumatoid affections; in the muscles, to paralysis, spasm, and rigidity, and more rarely to muscular atrophy and degeneration.

It has been attempted in the foregoing paragraphs to show that the character of these lesions is quite incompatible with their being the occasion of an exaltation of nervous function; and M. Charcot himself furnishes additional evidence that the peripheral effects of these central lesions are of an adynamic, ataxic, and paralyzing type. He shows "that in a considerable number of cases, at least"—and he mentions among them partial myelitis (pp. 92, 93)—there is an absence of hyperæmia and of increased temperature, both of which accompany and characterize tissue-changes of an active kind. Indeed, he withdraws these peripheral nutritive disturbances altogether from the influence of the vascular system, declining to follow "the wanderings," or to be bound by "the inanity" of the vaso-motor theory at present in vogue (pp. 36–90). He finds that "congestive and ecchymotic lesions form a separate order" (p. 86)—the latter being the peripheral tissue-change affecting the viscera. In nephritis and cystitis, which "are very common complications of irritative spinal affections," he finds symptoms and conditions, parallel to those resulting from "traumatic paraplegia," occurring during "spontaneous acute myelitis and in hematomyelia," conjointly with eschars on the sacral region and a diminution of electrical contractility "in the paralyzed muscles" (pp. 87, 88). These, as well as other peripheral morbid changes, M. Charcot attributes to the "direct action of the nervous system," exerted through the agency of the sensory and motor nerves, in both of which he claims impressions produced at any point "are propagated at once and simultaneously in centripetal and centrifugal directions" (pp. 89–103).

Such an exposition of the mode of production of peripheral nutritive disorders of a consecutive kind, by direct nerve-influence, without the intervention of the vascular system, and occurring, too, in numerous instances, in the absence of hyperæmia, while "the skin is generally pale and bloodless, and at the same time the local temperature is manifestly lowered from the very beginning" (p. 36), can hardly be regarded as implying other than defective, rather than exalted, vital action.

It is in singular contrast to the alleged "exaltation" of nerve-function that we find associated with this such phrases as "fatal irritation in *paraplegia;*" and the introduction of a quotation from Dr. R. Bright, in which, while discussing spinal lesions, it is suggested that "the connection between *interrupted nervous action* and the formation of bullæ" might be found to throw some light on the nature of herpes zoster" (note, p. 59). Since both the bullæ and the herpes are among the peripheral changes elsewhere attributed to exaltation of nerve-force, the words "interrupted nerve-action" are not without significance in such a connection.

Again, infantile spinal paralysis is said by M. Charcot to be "the most perfect type of the affections which compose" one of these groups of central "irritative" lesions. He states: there is here "a profound alteration of a large number of motor-cells in the region of the cord whence the nerves emanate which supply the paralyzed muscles. In the vicinity of the atrophied cells the connective network almost always offers manifest traces of an inflammatory process. Judging from the general aspect of the phenomena, we are induced to admit, as a highly probable hypothesis, that in infantile paralysis a *superactive irritative action* suddenly seizes on a large number of nerve-cells and *makes them promptly lose their motor functions*" (p. 47). Surely M. Charcot does not seriously regard such a result as due to "an exaltation of the properties" or functions of the motor-cells referred to, when the condition of the nervous centres and his own naïve admissions as to "loss" and "interruption" of nervous action point unmistakably to paralysis and the absence of the proper influence of the nervous system. Besides the "paralysis," spasms and contractions resulting in muscular distortions are also among the results of this condition, and are fairly attributable to the same cause—loss of motor-nerve action, occurring in varying degrees of intensity; "paralysis" being the result of a separation of the muscle from the influence of the will, and spasm and rigidity ensuing when the nervous filaments in the muscle are dead, down to their finest ramifications and motorial end-plates, so that the molecular state of the ultimate nerve-fibrils ceases to inhibit the ultimate fasciculi of the muscle. When this occurs, the muscle passes into a state of rigidity, which, when it is present during life, is simply the counterpart and anticipation of *rigor mortis.* When this rigidity gives place to relaxation, in exceptional cases, the nervous centres have either in part regained control over the muscles, or, owing to atrophy and degeneration of structure, the muscle has lost its property of contractility.

Especial reference has here been made to M. Charcot's valuable expositions, in order to show that authentic clinical facts tend strongly to confirm the conclusion arrived at by Dr. C. B. Radcliffe and others, as the result of physiological experimentation, that muscular contraction takes place to the best advantage in the absence of the influence of the nervous centres. It is believed that the facts here adduced tend also to establish that the latest and highest authorities are (involuntary) witnesses to the truth of the theory advocated in the antecedent articles in the RECORD, "on the relations of nerve and muscle."

THE SUBCUTANEOUS USE OF HYDROBROMIDE OF CINCHONIDIA IN THE SUMMER DIARRHŒA OF CHILDREN.

By S. HENRY DESSAU, M.D.,

PHYSICIAN TO THE OUT-DOOR DEPARTMENT OF THE NEW YORK FOUNDLING ASYLUM.

A CONTINUED high temperature, in conjunction with a low barometric pressure during the summer months, is certainly the most important factor in the causation of a rapidly fatal form of diarrhœa in children in this country. A study of the statistics of infantile mortality from diarrhœal complaints during the hot season, in our large cities, together with close observation of the disease, has led pediatricians to adopt this view.

The direct effect of excessive heat and low barometric pressure upon the infantile nervous organization is analogous to the insolation and heat fever produced by the same causes in the adult. In the former, however, the pathological action is expended upon the intestinal tract. It is not denied that other elements, such as putrefactive fermentation, foul air, and improper food, are also prominent aids in the causation of summer diarrhœas in children, but in that form accompanied with hyperpyrexia and severe and rapid prostration of the vital forces, these latter factors take only a secondary rank in importance.

It is in reference to this form, or the cholera infantum, as it has been commonly called, that I wish to bring to the attention of the profession the subcutaneous injection of hydrobromide of cinchonidia, as a powerful means of assisting in reducing temperature and restoring the vital forces. I was led to employ this method of treatment after reading a report of the successful treatment of cases of heat apoplexy, or sunstroke, by the subcutaneous injection of quinine by Surgeon A. R. Hall, of the British Army (*The Practitioner*, March, 1876, p. 196). Recognizing the similarity of cause that existed between sunstroke and this particular form of summer diarrhœa in children, it occurred to me that the same treatment might answer a like useful purpose in the latter trouble. Instead of using quinine, which frequently produces abscesses when hypodermically injected, I substituted a solution of hydrobromide of cinchonidia, as a more concentrated and harmless preparation, on the authority of Prof. Gubler (*Journal de thérap.*, No. 1., 1879), who states that three grains of hydrobromide of cinchonidia, subcutaneously administered twice daily, has the same effect as fifteen to thirty grains of quinine taken by the mouth. The hypodermic method of using the remedy is advantageous in avoiding the vomiting incident to the intestinal diseases of children, thus securing a speedy action of the remedy without disturbing the already hypersensitive stomach. After vomiting has ceased, however, the good effects of the remedy may be maintained by administering it by the mouth.

I subjoin the following cases to illustrate the effect of the treatment. They have been copied from the register of the Out-door Department of the New York Foundling Asylum.

CASE I.—June 14, 1879. Adele, two months old; bowels loose for two days; passages expelled with force in a stream, are watery and yellow, very frequent; vomits, moans, and contracts the brows. Temperature, 103⅕° F. in rectum. Injected about one grain of hydrobromide of cinchonidia over nates, subcutaneously. Gave hydrarg. c. cret., tr. opii deod. and bismuth subnit. in a mixture every three hours; ordered hot baths and fomentations to abdomen.

July 1st.—Nurse reported that the child had a convulsion on June 15th. The bowels improved the second day after last note and are now regular.

This case is reported because it was the first one in which I used the hydrobromide of cinchonidia hypodermically. The temperature was not so very high, and the same result would most likely have occurred with the other part of the treatment alone.

CASE II.—June 28, 1879. Robt. Woods, one year old; bowels became loose, thin and yellow, the same morning, about five o'clock; no vomiting; bowels moved frequently. Temperature, 105 F. in rectum. Injected ¾ gr. hydrobromide cinchonidia, hypodermically over nates. Gave a mixture of carbolic acid gtt. ¼, tr. opii deod., gtt. ⅜ and mist. cret. ʒ j. every two hours.

Died the next day. The negative result in this case was due, in a great measure, to the local surroundings and improper care in executing medical instructions on the part of the nurse.

CASE III.—June 28, 1879. Willie, five months old; diarrhœa for four days; convalescent from an attack of croupous pneumonia. Looks very pale and depressed by the heat; is very thirsty. Temperature, 104° F. in rectum. Four passages a day, dark brown and thin; no vomiting. Gave ¾ gr. hydrobrom. cinchonid. hypoderm., injection over nates. Gave mixture of hydrarg. c. cret., tr. opii deod. and bis. subnit. every three hours. Ordered cold baths every three hours.

July 1st.—Bowels moved only twice since last note, thin and yellow. Had two cold baths. Temperature to-day, 99⅗° F. in rectum. Nurse reported that he began to improve immediately after the hypodermic injection. Bowels remained loose for awhile, but were finally checked.

CASE IV.—July 15, 1879. Arthur, seven months old; no teeth; sick twenty-four hours; diarrhœa and vomiting; twenty passages so far, yellow and watery; refuses the breast. Temperature, 105⅗° F. in rectum. Gave hypodermic injection of ¾ gr. hydrobrom. cinchonid. over nates. Ac. carbolic, tr. opii deod. and mist. cret., every two hours; cold bath every three hours; brandy and toast-water as a drink.

July 17th.—Slept to-day for the first time in two days; bowels not moved since last night; is very restless now, tossing the head from side to side and screams out suddenly at intervals; pupils contracted. Temperature, 102⅗° F. in rectum. Repeated the hypoderm. injection ot cinchonid. and gave a mixture of ferri et ammon. tart. and tr. opii. camph. every three hours. Ordered applications of cloths wet in hot water to be made to the head.

July 19th.—Sleeps well; two passages from bowels since last note, were thick and black. Temperature, 99⅖° F. in rectum.

Case V.—July 15, 1879. Thomas, two months old, has diarrhœa; looks very sick; passages from bowels green and slimy, very large in quantity. Temperature, 106⅘° F. in rectum. Injected ¾ gr. hydrobromid. cinchonid. into nates; gave a mixture of hydrarg. c. cret., tr. opii deod. and bis. subnit. every three hours; ordered cold baths, brandy and toast-water as a drink. Died the next day.

As life was undoubtedly prolonged in this case by the reduction of temperature, induced by the hydrobromide of cinchonidia, it is reasonable to suppose that, had the injection been repeated, the slight improvement gained might have been increased and a successful result secured.

Case VI.—July 29th. John James, nineteen months old, began vomiting the day before, at 4 o'clock p.m., followed by diarrhœa; passages yellow and watery. Temperature, 103⅕° F. in rectum. Injected ¾ gr. hydrobrom. cinchonid., subcutaneously, over nates; gave a mixture of carbolic acid, tr. opii deod. and mist. cret. every three hours; ordered cold baths, brandy and toast-water as drink.

Aug. 6th.—Bowels now moved three times a day; passages thick and yellow. Temperature, 100° F. in rectum.

Case VII.—July 29th. John, two months old, has diarrhœa and vomiting one day; looks sick; passages green and watery; vomits greenish fluid. Temperature, 104⅗° F. in rectum. ¾ gr. hydrobrom. cinchonid., subcutaneously, over nates; ac. carbolic, tr. opii deod. and mist. cret. every two hours; cold baths, brandy and toast-water.

Aug. 5th.—Bowels improved; vomiting checked; has now thrush and some cough. Temperature, 102⅘° F. in rectum. Gave the hydrobromid. cinchonid. one grain four times daily, by the mouth. Afterward did well.

Remarks.—The result of the method of treatment as above described, though, perhaps, not as brilliant as could be wished for, is nevertheless highly satisfactory to one having a large experience in the summer diarrhœas of children. In both fatal cases, the temperature was 105° F. and 106⅘° F., respectively, and the general prostration severe. In the remainder, the temperature was never below 103° F., and in the case showing the most brilliant result, it was 105⅗° F. It may be said that as much credit was due to that part of the treatment outside of the hypodermic injections of hydrobrom. cinchonidia as to the latter. Be this as it may, I feel satisfied that, unless the temperature can be reduced and the prostration of the nervous centres restored promptly in the severer form of summer diarrhœa in children, that there will not be much time left to allow other remedies to exert any effect. Especially is this view all the more correct, if, as Binz has stated, in explaining the antipyretic action of quinia in sunstroke, the overpowering effect of excessive heat upon the nerve-centres is due to a poisoning of them, through a decomposition of the nutritive material of the blood. Quinine, according to Binz, who is perhaps the highest authority upon the therapeutical action of this remedy, even in relatively small quantities, acts directly upon the protoplasm, and prevents any putrefaction of nitrogenous substances. It even neutralizes the poisonous action of many putrid fluids upon warm-blooded animals, as far as certain symptoms are concerned, and checks activity of cells, decreasing the oxidation and disintegration of the tissues.

Unfortunately the injections in the cases reported could not be repeated as often as they should have been, which would be at least once, if not twice, in the twenty-four hours. Binz states that quinia remains in the circulation for many hours, and when given once a day in not too small a dose, circulates through the tissues, keeping them constantly under its influence. In future cases, I intend to use not less than one grain of the hydrobromide of cinchonidia, hypodermically, at one dose, where there is no opportunity to repeat the injection daily. This, it must be remembered, is a full dose for an infant. I use a ten per cent. solution, giving eight minims at an injection.

75 West Fifty-fifth Street.

Reports of Hospitals.

BELLEVUE HOSPITAL.

Notes of Practice and Items of Treatment.

DYSENTERY—SUDDEN DEVELOPMENT OF PERITONITIS.

The patient, a female, æt. 38, who gave the following history, had just entered the hospital. Her case was interesting chiefly with reference to diagnosis. She had had dysentery for six months, but which had not interfered with her to such an extent as to prevent her from performing nearly her usual amount of work. The dysentery came on, gradually grew worse, the passages getting more and more frequent, until she had a large number, 20 to 30, in the course of twenty-four hours, and she was positive that the discharges contained mucus and pus. She had had a slimy, bloody discharge since admission to the hospital. Three days ago an entirely new set of symptoms was developed. She was seized with a different kind of pain in the abdomen, and for the first time noticed that her abdomen was swollen. She then began to vomit, and the vomiting had continued, the swelling of the abdomen had increased, and she had steadily grown worse. Her temperature was 100¾° F.; pulse, quick and rather hard, 132. She had had chilly sensations, but no distinct chill. There was nothing specially noticeable about the countenance. Her respiration was frequent, and mostly thoracic. The limbs were not flexed upon the trunk. The abdomen was tympanitic and generally tender. There was no sensation of fluctuation. The pain was most severe upon the left side, along the course of the colon. A murmur was heard with the first sound of the heart, at its base, and with greatest intensity along the course of the vessels in the neck. Area of cardiac dulness was normal; and apex was in normal position. Pleuritic friction-sounds at lower portion of right side of the chest anteriorly, probably not of very recent origin. Neither the clinical history nor the physical signs sustained the suggestion that it might be intestinal trouble dependent on pulmonary disease. The vomiting was rather characteristic of peritonitis; being for the most part of a regurgitation of greenish fluid. The characteristic spinach vomiting of peritonitis does not occur as a prominent symptom in peritonitis until the inflammation has reached that portion of the serous membrane covering the stomach. It was believed that her recent disease was a localized peritonitis from ulceration somewhere along the course of the descending colon, and from that point it had become general. Prognosis was grave, though not necessarily fatal. The treatment was opium in full doses, so as to bring the patient into a semi-narcotized condition as rapidly as possible, consistent with safety. But suppose the pulse did not fall below 120, or the respiration below 17, and yet it was with difficulty that the patient could be aroused, would it be judicious to still push the opium? The answer was that there are patients upon whom opium acts badly, and that the physician was obliged to feel his way carefully. Under such circumstances it was thought proper to administer veratrum viride to assist in reducing the pulse. Milk and lime water was ordered for food. Objection was made to using leeches on account of the patient's anæmic condition. Hot applications were made to the abdomen.

MALARIAL FEVER OF THE REMITTENT TYPE—DEVELOPMENT OF CONSOLIDATION AT THE APEX OF THE RIGHT LUNG.

The following case was especially interesting with reference to the rapid development of pulmonary consolidation. The diagnosis, when the patient first came into the hospital, was remittent malarial fever, and the jaundice, which was marked, was supposed to be the result of changes produced by the fever, with, perhaps, slight catarrh of the hepatic ducts. At first his temperature was 104° F.; it ranged between 104° and 103° F. for several days, and finally fell to 100° F. On the day following that on which the temperature fell to 100° F., it rose to 103° F.; in the morning of the next day was 100° F., and in the afternoon 103° F. There were regular exacerbations and remissions. His temperature, at the time this note was made, was 100° F., and had fluctuated between 100°, 101°, and 102° F. for several days. Within two weeks the physical signs of consolidation at the apex of the right lung had developed, and the question arose, was phthisis developing? There was physical evidence of pulmonary consolidation, both anteriorly and posteriorly, and the signs did not appear until the fever had rather spent its force, and they had increased somewhat. Although his general condition seemed to be improving, it was believed that it was a case of a low type of catarrhal pneumonia in which resolution would probably occur, and recovery. The case was interesting as showing that when patients were in a broken down condition, from any cause, pulmonary consolidation might be developed at the apex of one or other of the lungs, and give the physical signs of phthisis. Not infrequently, such cases terminated as fully developed phthisis; yet, while they were not promising, it was remarked, recovery in a large proportion took place, even if the physical signs were quite positive.

EMPYEMA—SPONTANEOUS OPENING—IMPORTANCE OF EARLY ASPIRATION.

Two cases were seen in contrast. The history of the *first* was as follows:

April 28th. A male patient had been sick since the second day of January, when he had what his physician called pneumonia. He was out on the first day of January, and on the next day was taken with pain in the left side, without chill, had a cough, and expectorated a white phlegm, which, during the first week, was scarcely streaked with blood, but subsequently was so markedly. He had some fever, and was confined to his bed during the entire month of January.

Subsequently a bunch appeared in his side, which broke and discharged a large quantity of yellowish fluid, and the discharge had continued up to date. The opening was about two inches below the left nipple. He could sleep only when lying upon his back.

The history of the *second* case was as follows: A male patient had been sick since last September, when he was taken with pain in the left side, without chill and without cough, which continued two weeks. He could sleep only when lying upon the left side. He had lost flesh, and latterly had had night-sweats.

Physical examination in the *first* case made the diagnosis very clear, and it was, that the patient had empyema, with spontaneous opening. The opening was rather lower than usually occurs in spontaneous thoracentesis, which may be behind or in front, but in the majority of cases at the latter point. The heart was pushed over to the right side considerably. The left side was retracted.

Physical examination in the *second* case revealed that the left side was enlarged; upon full inspiration there was loss of motion; there was entire absence of all respiratory sounds, and there was complete flatness on percussion. The heart was pushed over to the right so that the apex-beat was found a little beneath the right nipple. There was bulging of the intercostal spaces. For a few days he had night-sweats. Pulse 134. The left pleural cavity was completely filled with fluid.

The two cases illustrated two conditions or stages in the same disease. In both cases was shown, in a striking manner, a change in the position of the heart.

In one case the spontaneous opening occurred early; but why in some cases such opening occurred early while in others it occurred very late, was not well understood, yet it had been noticed that the younger the subject the more likely was spontaneous opening to occur early; whereas in the older subject it occurred late, if at all. In some cases, also, the general process is slower than in others. It was believed that if the fluid had been drawn from the chest in December or January, in the second case, the patient would have been nearly well, perhaps entirely so; and the case illustrated the importance of removing the fluid from the pleural cavity early in its history, with a view to preventing a change of the product of the inflammation into a purulent collection.

With so much displacement of viscera as was manifested in the second case, it was believed to be important to remove a portion of the fluid from the pleural cavity promptly, as the man was in constant danger, if unrelieved, of sudden syncope, from which he might not rally.

A Costly Fossil.—Those who in their college days knew, and more or less loved, that interesting fossil, the archæopteryx, will be pleased to learn that the finest specimen in the world has just been purchased for the University of Berlin. The sum paid was $20,000, which seems trifling when we consider how few archæopteryces there are in the world, and how many wealthy people. It may be remembered, but more probably will not, that the archæopteryx sang and flew during the Jurassic period, of which it has been considered the nightingale, by those who think the creature a bird. Those who think that it is a reptile, deny it, of course, that title. We hope that the question as to which it is, will be decided soon by the authorities at Berlin. There are hundreds of liberally educated young men who every year leave college without any well-defined idea on the subject. Yet the market price of the archæopteryx ranges from $10,000 to $20,000.

Progress of Medical Science.

On Persistent Priapism not Connected with Lesion of the Central Nervous System.—A very interesting case of priapism, probably due to a leucocythemic condition of the blood, is narrated by Dr. G. L. Peabody, of this city. The patient, a coachman, twenty-eight years of age, had had fever and ague in 1874, and again in February, 1879, when he also suffered from epistaxis. When first seen by Dr. Peabody, he complained of priapism, which was unaccompanied by seminal emissions, or sexual desires. He could urinate without difficulty, as the erection was only confined to the corpora cavernosa. His kidneys were affected, as was shown by the general anæmic condition, the swelling of the feet, and the presence of albumen and hyaline casts in the urine. The spleen was enlarged, as were the cervical and inguinal glands. As he suffered from great pain in the perineum, when he attempted to sit down, he was kept in the recumbent position, and his penis protected from the bedclothes. Quinine, and later cinchonidia, was given internally, and ergot injected hypodermically over the site of the spleen. At the end of a month his penis was of the usual size, and during this time the temperature often rose to 101° F. in the evening to fall to 99° F. the next morning. The blood was examined and found to contain white corpuscles in large quantities, being in the proportion of one white to two, three, four, or six of red blood-cells. He still had epistaxis, but his health had improved under the internal administration of iron. The spleen continued of the same size, and there were imperfect erections of the penis. Iodide of potassium, given internally, together with the local application of tincture of iodine, failed to prevent the increase in size of the glands. In the beginning of the year (1880) he was in the same condition. This is said to be the seventh case on record, where priapism occurred in a leucocythemic patient.—*N. Y. Med. Journ.*, May, 1880.

Periarthritis—A Study of Forty-seven Cases.—Dr. Gibney, of this city, employs the above term to designate an inflammation of the loose cellular tissue surrounding the different articulations. He says that the object of the paper is to popularize the name and to show that it is a more common affection than is generally supposed. It differs materially from diseases of the joints, whether primary or secondary. The symptoms are generally acute, there being pain, heat, and infiltration, and, if in a late stage, there is fluctuation about the joint, which may end in suppuration. Of the forty-seven cases on which the article is based, the average length of time from the commencement of the disease, or when the pain was first noticed, until the limb was restored to its natural condition, was from five to six months. Ten of the patients were cured in one month from the time of the first pain, thirty in four months, and in one the disease lasted three years, although the joint was not involved. Suppuration took place in thirty-five of those affected, in the following localities: 18 at the hip-joint; 8 at the knee; 4 about the ankle; 3 in the vicinity of the sacro-iliac articulation, and 2 over the spine. The disease existed at the hip-joint in 20 of the cases; at the knee in 18 patients; near the ankle in 4 instances, the sacro-iliac joint was involved in 3 cases, and the remaining 2 had their spine affected. The ages of the patients were as follows: 3 under one year; 26 under four years; and 2 over seventeen, the oldest being fifty-seven years of age. The ages of the remainder are not given. There were 28 males and 19 females affected. In 7 instances the disease was caused by a fall; 2 produced by a strain; 2 by vaccination; 1 each by rubeola, hereditary syphilis, and thrombosis; in 33 there was no ascertainable cause. The prognosis is good, both in reference to recovery and a complete restoration of the functions of the limb involved.—*N. Y. Med. Jour.*, May, 1880.

Erysipelas Affecting Successively the Pharynx, Mouth, Breast, Face, and Lungs.—M. Luc reports this remarkable case, which was observed at La Salpêtrière, service of Dr. Terrier. The patient, eighty-three years old, was first seen on the 18th of February, presenting then the following appearance: tongue considerably swollen; could scarcely be extruded; buccal mucous membrane intensely red, swollen, and offering a characteristic glazed aspect; painful swellings about the submaxillary and retromaxillary regions; isthmus faucium same color, but less swollen; marked difficulty of speech and deglutition, embarrassed respiration, but heart and lungs normal. Sternal region shows erysipelatous redness. The disease was ascertained to have set in with repeated initial chills, followed by violent throatache and vomiting of biliary matter. The patient improved, under appropriate treatment, until the 21st of February. At that time she again grew worse; there was a marked febrile movement, and physical examination now revealed a pneumonia of the lower third of the left lung. In a few days the patient rallied, and finally completely recovered. The author also alludes to two similar cases. One was observed by M. Stackler. A young woman was attacked by an erysipelatous inflammation proceeding from the pharynx to the face and back, and finally producing pneumonia of the right lung. The other came under the notice of M. Straus, and related to a man who died of erysipelatous pneumonia. At the autopsy characteristic redness and swelling were still found on the surface of the tracheal mucous membrane and in the bronchi of one lung.—*La France Médicale*, March 31, 1880.

On the Partial Metabolism by the Liver of Leucin and Tyrosin into Urea.—As a result of the examination of the urine of several patients affected with various diseases, such as emphysema, Bright's disease, hemiplegia, etc., Dr. Edward C. Anderson has been able to determine the presence of leucin and tyrosin, either separately or together, accompanied by a relative diminution in the quantity of urea excreted from the kidneys. Tyrosin was found to be absent in nineteen out of the thirty-three cases, contrary to the prevalent opinion, which is, that leucin and tyrosin are generally found together. As the leucin disappeared from the urine, the urea increased in quantity. He believes that the leucin and tyrosin take the place of the urea. In cases where there is increased formation of urea, together with the formation of leucin and tyrosin, it is produced by the great destructive metabolism, which is shown by the fact that as convalescence progresses, although the amount of urea excreted has diminished, there is also a diminution of the leucin and tyrosin and a final disappearance of them. This transformation of urea into leucin and tyrosin is well shown in acute yellow atrophy of the liver.—*Lancet*, April 17, 1880.

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THE NIGHT MEDICAL SERVICE.

The bill for the creation of a night medical service having passed the legislature, and having been signed by the governor, has now become a law which will soon be put to a practical test. It will be remembered that, several months since, Dr. Henri Nachtel, of Paris, read a paper before the Academy of Medicine, giving a detailed account of the workings of the system of night medical service in his native city, and urging its adoption in New York. Although, from what we had already learned concerning the benefits of the system in Paris and other cities in which the service had been tested, there was little doubt that New York could, by the same means, be likewise benefited. Dr. Nachtel's paper drew renewed attention to the subject, and gave a thoroughly practical turn to the whole matter. After the favorable reception of the paper by the Academy of Medicine, and by the profession generally, in this city, a bill was prepared, in which the system of service in Paris was adapted to the wants of this city.

At the time of the presentation of the bill we gave a synopsis of its provisions, and took occasion to urge its passage. As might have been expected, there was some show of political opposition in the legislature, but the bill finally passed by a large majority, and then came before the governor for his signature. Here the greatest difficulties appeared to present themselves. The heads of departments were to be consulted, and not until an influential representative from each was ready with his endorsement, did the governor take upon himself the responsibility of affixing his signature to the document. Considering the small amount of money (three thousand dollars) required as an appropriation for carrying out the provisions of the law, it is somewhat remarkable that any opposition whatsoever should have been offered. If any reflection, from a political standpoint, is to be cast upon the real merits of the law, it is that so much good service can be rendered the public by such a small outlay of money.

As will be remembered, the bill, which has now become a law, provides, in substance, that there shall be kept at each police station a list of physicians approved by the Health Board, and who shall be ready to respond to night calls, for the sum of three dollars per capita. In case the patient is too poor to pay for the service, a certificate of attendance is issued by the officer having charge of the station, which certificate is duly cashed by the treasurer of the service fund. In order that no partiality may be shown to any practitioner, and that no valuable time may be lost, it is provided that, under all circumstances of emergency, aid shall be obtained from a source as near as possible to the patient.

There has never been a doubt as to the utility of a night medical service in New York, or in any other large city. No objection has ever been urged on that score, even by those who at first opposed the passage of the bill. All the arguments brought to bear against it were centred in the difficulty under the existing form of municipal government of making it effective. As it is, however, its working is simplified by attaching the bureau to the Health Department, where it very properly belongs. By such means the public is guaranteed that none but well-qualified practitioners of medicine will be recognized as volunteers for the service, and none others will have their names upon the official lists. And of no less importance is the fact that prompt attendance is insured to all who may be in emergency. It is fair to presume that there will be no lack of volunteers. In fact there is a chance of having more than is really required; but this will work no harm in any direction.

Taking a purely professional view of the situation the creation of a night medical service is of importance in that it will tend to relieve many practitioners who are unable to respond to night calls, will protect them from being unnecessarily disturbed by chance callers, and will give the younger practitioners a chance to be paid for work which would otherwise be entirely gratuitous with the loss of sleep besides. Again, small as is the appropriation, it is made upon the principle that the public is willing to pay the private physician for services he may render to the needy pauper. It is a recognition on a small scale of the obligation of the municipality to provide for medical services to its poor, in the proper way by paying for them.

As such it may have a significance as a precedent which will overshadow the particular object for which it has been established.

THE SANITARY CONDITION OF MEMPHIS.

The first Annual Report of the Board of Health of the Taxing District of Shelby County, is based, to a considerable extent, upon the sanitary survey of Memphis made last winter by the National Board of Health. The results of this survey were presented some months ago and were referred to at the time in The Record. The report now before us supplements that made to the National Board, and from the two an excellent idea of what is being done for the sanitary improvement of Memphis can be gained.

During the two epidemics of yellow fever in 1878 and 1879 two thousand and seventy-two persons died within the corporate limits of the city of Memphis. This loss, taken with the paralysis of business it occasioned and the extra drain upon the taxpayers, might well be expected to have ruined the once thriving city. It has shown, however, a wonderful elasticity; its present population is now greatly diminished, and, if no epidemic occurs during the present summer, there will undoubtedly be a continuance of its former prosperity. The present Board of Health was organized in February, 1879. It has worked indefatigably ever since and has at last initiated or completed sanitary reforms which promise to make the city a model one. In the beginning, there was scarcely any direction in which some sanitary work was not needed. The streets were covered with decaying pavements, the sewerage was imperfect or absent, the water-closets were holes in the ground and often near the wells and cisterns. There were accumulations of filth in many places. The drinking-water was bad, the schools and other public buildings poorly ventilated and incompletely drained; in fact, Memphis had been going along in a slip-shod kind of way, almost inevitable perhaps to a struggling city with a large colored population.

Work has, however, been begun which will in time remedy nearly all these defects; and as much as could possibly be expected has already been accomplished. A complete system of sewerage and subsoil drainage is now being introduced; coincidently with this, privy vaults are being emptied, disinfected, and filled up. Three thousand of these were in a dangerous condition; and at date of the report over 1,400 had been filled. Earth-closets or water-closets are substituted for them. Of dangerous buildings, 112 have been torn down. Much of the old Nicholson pavement has been taken up and replaced with stone. The use of cisterns and wells containing impure water has been discontinued; all buildings within fifty feet on each side of Bayou Gayoso have been removed. Finally, a thorough system of local sanitation has been introduced; part of this consists in the appointment of a corps of eight inspectors who make daily inspections and report to the Health Office.

The report before us, besides thus detailing the work now being done, gives a history of the epidemic of 1879, and makes recommendations regarding the water-supply, the public schools, and the latrines.

On the whole an encouraging view of the future of Memphis is given. Every one will sympathize in the hopes of prosperity expressed, and will watch with interest the result of the past winter's work upon the pestilential influences of the summer.

THE INCREASED RANGE OF DOSAGE AND THE LAW OF SIMILARS.

No one can fail to have noted the increased therapeutic range which has of late been given to many standard drugs by simply varying their dosage. We have, indeed, had our materia medica enlarged almost as much in this way as by the actual addition of new remedies. This extension has been made both by increasing and by diminishing the ordinary dosage, and in each case new effects have been produced. It is perhaps in calomel, strychnine, and the potash salts that a different or a greater power in very large doses is best illustrated. The employment of minute doses, on the other hand, has been much more extended and has produced more striking results. Thus the use of podophyllin in infantile diarrhœa, of arsenic in gastric irritation, of ipecac as an anti-emetic, of pilocarpin and Dover's powder, and Turkish baths in night-sweats, of cantharides in urethral irritations and hæmaturia, are all notable extensions of the therapeutic range of the particular drug.

Of course, such examples as these are eagerly held up by enthusiasts as proofs of a grand therapeutic law. It hardly needs argument, however, to show that they do not indicate either a law or even a uniform series of facts. There are but few drugs which have even this peculiar range we have described, and these do not, as a rule, show their best results in their minimum doses. We doubt if arsenic ever becomes popular in gastritis, or pilocarpin in night-sweats, while ipecac is a most unreliable anti-emetic. We need not look for any great therapeutic triumphs therefore in the *similia similibus* action of the drop posology. There is a physiological law that substances which at first irritate inhibitory centres, when more energetically given, will paralyze them; or what at first constringes a tissue, may, later, relax and destroy it. There is nothing very new in this law; the only novelty is that we are learning of more agents which, when given in a certain way, illustrate it. These new facts, in regard to minute dosage, are suggestive and often useful, but they indicate no mysterious nor universal law.

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The Small Fee System in Boston Dispensaries.—The plan of charging a small fee for medicines, which may be remitted at the discretion of the superintendent, has been adopted by the Boston dispensaries.

Reviews and Notices of Books.

THE PRACTITIONER'S REFERENCE BOOK. By RICHARD J. DUNGLISON, A.M., M.D. Second Edition, revised and enlarged. Philadelphia: Lindsay & Blakiston. 1880.

WE can heartily commend this book as one that must prove very useful to the general practitioner. This, the second edition, is larger, almost by half, than the first, and the book is much more satisfactory and complete. The additions that have been made include chapters on How to Write Metric Prescriptions; Directions as to the Use of the Hypodermic Syringe; How to Use a Galvanic Battery; How to Apply Trusses in Herniæ; How to Use the Clinical Thermometer; How to Prepare Stained Sections of Animal Tissues; Reference Tables of Size, Weight, and Specific Gravity of all the Organs of the Body; Celebrated Prescriptions or Remedies; Therapeutics of the Bowel Affections of Children; Diagnostic Tables of the Principal Fevers; also of Acute Pulmonary Diseases; of Diseases of the Larynx, and Naso-pharynx, and of Tumors of the Groin; Ready Reference Table of Antidotes, on a new plan. Rules of Medical Etiquette.

The above list will show how the book has been enlarged and will also give an idea of the general character of the work to those unacquainted with the first edition.

ON THE RELATIONS OF THE MEDICAL PROFESSION TO THE TRADE INTERESTS OF THE MATERIA MEDICA, and A NOTE ON PEPSIN. By EDWARD R. SQUIBB, M.D.

IN this valuable pamphlet, Dr. Squibb relates certain occurrences, in the Kings County Medical Society, which came very near to being discreditable. He also gives us some interesting facts in regard to the value of the different kinds of pepsin now in the market.

It seems that a gentleman read a paper before the above Society "On a Ready Method of Testing Pepsin," by which it was apparently shown that the pepsin of a certain manufacturer was much superior to all other kinds. The paper was referred to the Committee on Publication, and came very near being printed in the Society's journal, to the great advantage of the manufacturer of the particular pepsin in question.

Dr. Squibb shows the questionableness of the performance on any ground, and then proves that the test proposed was not a reliable one, and that the pepsin so much lauded is not any better than other kinds. From experiments, which he made, he concludes that the pepsins of the market are not pepsin at all, but rather concentrated peptones. They do, however, excite digestive fermentation, and practically may be regarded as pepsin. Another practical deduction is that by giving the pepsin with hydrochloric acid and a little nitrogenous food, half an hour or more before meal-time, a quantity of active peptone may be produced sufficient for the larger mass of the approaching meal.

A SYSTEM OF MEDICINE, Edited by J. RUSSELL REYNOLDS, M.D., F.R.S., with numerous additions and illustrations, by HENRY HARTSHORNE, A.M., M.D., in three volumes. Vol. III. Philadelphia: Henry C. Lea's Son & Co. 1880.

WE have already presented the chief features of this work in a review of the first and second volumes. The present and last volume is known to the profession through the English edition, and does not now need extended notice. It embraces diseases of the digestive, blood glandular, urinary, and cutaneous system. In diseases of the digestive system, the work has been done by Wilson Fox, Squarey, Wardell, Bristowe, Begbie, Goodeve, Curling, Anstie, and Maclean. Dr. Hartshorne has added chapters on cholera morbus and cholera infantum. Diseases of the blood-glandular system are treated of by Wardell, Gowers, Wilk, Beigel, and T. Lauder Brunton. Dr. Hartshorne adds bronchocele and progressive pernicious anæmia. Most of the chapters on the diseases of the urinary organs are by Dr. Roberts, but Drs. Basham and Beck, and Sir Henry Thomson, contribute each a chapter. Dr. Grailly Hewett writes two chapters of those devoted to diseases of the female reproductive organs. Drs. Priestley and John Williams finish the section. Dr. Hartshorne, at the close, gives a chapter on spermatorrhœa. Dr. J. Balmanno Squire writes of diseases of the cutaneous system.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 12, 1880.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

RUPTURE OF ANEURISM OF AORTIC VALVE, WITH AMYLOID DEGENERATION OF LIVER, KIDNEYS, AND INTESTINAL MUCOUS MEMBRANE.

DR. G. L. PEABODY presented specimens of the above, with the following history:—The patient was a laborer, fifty-four years of age, whose history is unsatisfactory. He was under observation only three hours. He was admitted to the New York Hospital on May 8th, at 6 P.M. Immediately after admission he had a convulsion. His urine was loaded with albumen. He was treated by the hot-air bath, and was given pilocarpine subcutaneously. He had repeated convulsions, and died at 9 P.M. on the same day. His wife said that he had been complaining for four months.

The autopsy was made fourteen and a half hours after death. He had cicatrices over both shins, and there was slight œdema of both legs. The chief point of interest was the heart, which I show you here. The left ventricle was slightly dilated, and one of the segments of the aortic valve was found almost entirely covered, on its ventricular aspect, with a thick layer of fibrine. It forms a much larger pouch than does either of the other segments. About midway between its free border and its attached border is seen a rupture, large enough to allow a No. 2 English urethral sound to pass through it. At this point the elastic tissue is entirely destroyed. The muscular tissue of the heart was pale and flabby, but, microscopically examined, was normal. I regard the case as one of acute endocarditis.

Both kidneys presented the complex lesions of amyloid degeneration, as did also the liver. The mucous membrane of the ileum was similarly degenerated. The lymphatic glands were nowhere enlarged.

Dr. Peabody next presented a specimen of

CYSTITIS, WITH STRICTURE OF THE URETHRA, AND FISTULA OF URETHRA OF LONG STANDING, TOGETHER WITH NEPHRITIS AND SOFTENING OF THE BRAIN.

The patient was a mechanic, a native of Germany, unmarried, fifty-five years of age. He was admitted to the New York Hospital on May 4th. Said he had had headache, not localized, for fourteen days. The day before admission he fell in the street. On admission his temperature was 101°. His tongue deviated to the right side. Right pupil was contracted. left dilated. No difference in strength of hands, but both feeble. No paralysis. Some difficulty in swallowing. Speech was thick. Understanding good. Denied venereal disease. He soon grew stupid. His urine contained a large percentage of albumen, together with hyaline, granular, and epithelial casts. Difficulty in swallowing increased. His urine had to be drawn by catheter. He died with œdema of the lungs, on May 9th, five days after admission.

Autopsy, twenty-one hours after death.—The interest centred in the brain, and in the genito-urinary tract. The brain I cannot present to you, so that I will describe its condition very briefly. There was marked atheroma of the vessels at the base, even of small arterial branches. There was no thrombosis or embolism in any of the branches so far as they could be traced, but there was distinct softening, without discoloration, of the left corpus striatum. The ventricles were not larger than usual. The kidneys were pale, cortex thin, markings of cortex obscure, capsules adherent, and surface granular. Microscopically, the lesions of diffuse nephritis were found, the interstitial element predominating. The ureters were not dilated. The penis, which, together with the bladder, I show you here, displays a close stricture at the bulbo-membranous junction, which admits, with difficulty, a No. 2 English urethral sound. In the floor of the urethra, to the right of the frænum in the corona glandis, is a circular, fistulous opening, whose diameter is about one-quarter of an inch. It is lined by mucous membrane, and presents no signs of inflammation.

The bladder was tightly contracted, and shows very marked hypertrophy of its muscular wall.

Dr. Post exhibited a calculus removed by bilateral lithotomy, from a boy, aged nineteen years. The patient recovered without an unfavorable symptom.

RHINO-CHEILOPLASTY.

Dr. A. C. Post next exhibited a water-colored painting representing an almost entire deficiency of the upper lip, with a loss of the columna nasi and of a portion of the right ala nasi, with the following history :

Charles Gardiner, æt. 65. Twenty-two years ago he had a wart on his upper lip which remained stationary for many years, and gave him no trouble. Four years ago he applied an acid to it, after which it became sore and increased in size. On the 31st March, a female cancer doctor, whom he had consulted, applied a paste or ointment which was reapplied four times at intervals of one day each. After the fourth application a poultice was applied and renewed for several days, when, on the 14th April, a slough came away, involving all the disease, and with it nearly the whole of the upper lip, and portions of the nose. He applied at my clinic, on the 24th April, when cicatrization had taken place, leaving a deficiency of the upper lip, excepting a narrow strip about a centimetre in width toward the left angle of the mouth. There was no trace of the columna nasi, and there was a deep notch about fifteen millimetres in breadth at the lower part of the right ala nasi.

I sent the patient to the Presbyterian Hospital, where I performed the following operation, on the 1st of May :

I first made a flap of the narrow strip of the lip, which remained near the left angle of the mouth, excising its vermilion border and its cicatrized margin, and leaving it attached at its upper extremity, and raised it so that its cutaneous surface looked upward toward the nose, and its mucous surface downward. This flap was made to replace the lost columna nasi, its cutaneous surface being denuded, and applied to the denuded inferior margin of the nasal septum, and its extremity to a denuded margin of integument at the tip of the nose, and the flap was secured by fine sutures to the parts to which it was applied. In its new situation, the transplanted flap formed a good substitute for the columna, which had been destroyed, except that its position was oblique, its posterior attachment being considerably to the left of the median line. The rectification of this obliquity was necessarily left for a subsequent operation.

I then made a flap of skin and subjacent tissues on the right side of the mouth, extending through the whole thickness of the cheek, wide enough not only to form the right half of the upper lip which was to be constructed, but also to fill up the notch in the right ala nasi. The two horizontal lines which bounded this flap above and below, were carried back over the anterior edge of the ramus of the jaw, and were then curved downward and forward over the base of the jaw, approaching each other so as to leave a space of about twenty-five millimetres between them at the narrowest part. A transverse incision was made at the anterior part of the broad portion of the flap, separating the part designed to fill up the notch of the ala nasi, from that which was to be used in the construction of the lip. The part designed to repair the notch of the ala nasi was then trimmed to the proper shape, and the margin of the notch denuded to receive it, when the parts were secured to each other by sutures. A flap of the breadth required to construct the left half of the upper lip was then made by incisions through the left cheek, following in the main the same directions as those which had been made through the right cheek. The right and left flaps were then drawn together so as to meet in the median line, and constricting bands within the mouth were divided for the relief of tension. More resistance was encountered on the right than on the left side, and it was deemed necessary, in order to overcome this resistance, to divide the mucous membrane by a vertical incision about five centimetres behind the anterior margin of the flap. The flaps were then joined in the middle by two pin sutures, and a number of fine silken sutures. The margins of the wounds in the cheeks were also united by fine sutures, excepting that a small space was left to granulate between the flap used for the ala nasi and that for the lip, and a larger space, about thirty-five millimetres in length and twenty-five in breadth, behind the peduncle of the flap, taken from the right cheek. These spaces were covered with ravellings of lint smeared with collodion. The mucous membrane of the newly constructed lip was then drawn forward and attached to the skin by numerous fine sutures, forming a vermilion border. When the operation was completed, the patient was greatly improved in appearance.

Since the operation, the wounds have healed throughout a great part of their extent. The newly-formed columna has united with the nose. The notch of the right ala nasi is filled up with the flap which was adapted to it, and which is secure in its new position. The left half of the newly constructed upper lip is perfect, and its vermilion border is adherent throughout. The vermilion border of the right half has sloughed throughout its whole extent, and a small portion of the tegumentary flap has also sloughed. The open wounds, which were dressed with lint and collodion, are in a state of healthy granulation. The general appearance of the face is good. The cicatrices are not conspicuous, and the ultimate success of the operation is secured beyond reasonable doubt. A supplementary operation will be required to supply the deficiency of the right side of the lip, and to readjust the columna nasi.

OSTEO-SARCOMA OF SUPERIOR MAXILLARY BONES.

Dr. Post also exhibited a specimen of osteo-sarcoma, involving the superior maxillary bones and the left cheek, with the following history:

Fungous-growth from the alveolar and palatine portions of both superior maxillary bones, involving also the mucous membrane and sub-mucous tissues of the left cheek.

Henrietta Johnson; æt. 52; married; admitted into the Presbyterian Hospital, April 16, 1880. She was not aware that there had been any case of cancer in her family. She had generally enjoyed good health, but had lost many of her teeth, and had worn a plate with false teeth for fifteen years, and she thought that the plate had irritated her mouth. Fifteen months before her admission she had noticed several small white spots on the inside of her right cheek. As they appeared disposed to spread, she had them cauterized, and they healed. They afterward reappeared, and increased in size. During the last winter they had occasioned so much irritation that she was obliged to remove her false teeth. They were painless at first, but during the winter they had become painful. Three months before her admission, they began to discharge a small quantity of odorless fluid.

At the time of her admission, an extensive fungous-growth occupied the alveolar and palatine portions of both superior maxillary bones, and a large portion of the mucous membrane and submucous cellular tissue of the left cheek. There was also a similar growth, but less extensive and more superficial, occupying a portion of the mucous membrane of the right cheek. The superficial fungous-growth from the right cheek was treated by the application of strong sulphuric acid, three times a week, and within a fortnight it nearly disappeared. On the 4th of May I removed the tumor, which occupied the two superior maxillary bones and the left cheek. The patient was prepared for the operation by the administration of half an ounce of brandy, with a little water, followed by a hypodermic injection of eight minims of Magendie's solution of sulph. morphiæ, and the administration of ether as an anæsthetic. I began the operation by performing tracheotomy, which was attended with some difficulty, in consequence of two large veins over the trachea, requiring to be tied in two places and divided, and also in consequence of the trachea being displaced backward and to the left by an abnormal-growth of the consistence of fibro-cartilage, which seemed to be attached to the isthmus of the thyroid-body. When the trachea had been freely opened by an incision through its anterior wall, I did not introduce a tube, but I adopted the method of Dr. Martin, of Boston, attaching, by suture, each lip of the tracheal wound to the corresponding lip of the cutaneous incision, and to the doubled end of a strip of adhesive plaster, and then drawing the two strips of adhesive plaster in opposite directions around the neck, thus keeping the edges of the tracheal incision widely separated from each other.

Having completed the tracheotomy, the ether was administered through the tracheal incision, and the mouth and nose were left free for the further steps of the operation. To prevent blood from flowing into the air-passages, a large sponge with a strong thread tied around it was crowded into the fauces. An incision was then made through the median line of the upper lip, and extended on each side through the upper lip at its junction with the nose, through the cheek at its junction with the nasal pyramid nearly to the inner canthus, and then parallel with the infra-orbital brim to a point near the outer canthus. On the left side, as more room was required for the removal of the portion of the tumor which involved the cheek, two additional incisions were made, each about five centimetres in length, extending downward and outward from the external commissure of the lips, and from a point near the external commissure of the eyelids. The extensive flaps bounded by these incisions were then dissected up from the subjacent parts, and the interior of the buccal cavity was thus fully exposed to view. The tumor was then separated from its attachments by means of bone-forceps and scissors, the portion of the morbid growth occupying the mucous and submucous layers of the left cheek being dissected off from the subcutaneous layers, there being a distinct boundary of healthy adipose tissue between the tumor and the skin. In prosecuting the dissection between the tumor and the ramus of the lower jaw, a large artery was divided, supposed to be a branch of the internal maxillary. The hemorrhage from this artery was controlled by pressure with a sponge, while I prepared to secure the vessel with a ligature. I succeeded in passing a curved needle armed with a double ligature through a mass of tissue enclosing the artery, and by tying the threads on each side I succeeded in arresting the hemorrhage. A small portion of the morbid growth was left behind in this region, and I thought it most prudent to postpone its removal by the actual cautery to a subsequent operation, as the present operation had been quite protracted, and the patient was somewhat exhausted. In the course of the operation, I had occasion to secure a number of bleeding vessels by ligature, and by the application of the Pacquelin cautery. Toward the close of the operation, when the pulse began to flag, I directed a hypodermic injection of thirty minims of brandy, which was repeated after a short interval. I also directed an enema of an ounce of brandy with three ounces of warm milk. I washed the extensive wound with carbolic acid, one to forty, and united its edges with fine sutures. After completing the closure of the wound upon the face, I placed a roll of lint within the mouth, to support the upper lip and the cheeks. I also withdrew the sutures from the tracheal incision, and allowed the edges of the wound to lie in contact.

There are several points in connection with this case which I deem worthy of special notice. The preparation of the patient for an operation, which was foreseen to be long and bloody, by the administration of brandy, and by the hypodermic injection of morphia before the inhalation of ether, appears to me very important to the safety of the patient, and to the comfort of the operator. The brandy helps to maintain the force of the circulation, and diminishes the tendency to extreme prostration in protracted operations. The morphia keeps the patient in a more quiet state of anæsthesia than can be easily and safely maintained by ether alone. In the present case there were very considerable intervals in which the patient slept quietly during the operation while the inhalation of the ether was discontinued.

The performance of tracheotomy as the initial step of an operation in which extensive incisions are made in the deeper parts of the nasal and buccal cavities, seems to me to add greatly to the safety of the patient by preventing the flow of blood into the air-passages, and it greatly facilitates the operation by allowing the uninterrupted inhalation of the anæsthetic as long as it is required.

The maintenance of the opening in the trachea, without the introduction of a tube, appears to me to be a vast improvement upon the old method which requires the introduction of a tracheal tube. For this improved method of maintaining the opening in the trachea, the profession is under great obligations to Dr. Henry Austin Martin, of Boston. The advantages of this method are that it maintains a larger opening for the entrance of air, and for the escape of blood and mucus than can be maintained by a tube; that it occasions much less irritation; and that the trachea is very much less liable to be clogged than when a tube is inserted. The flow of blood into the trachea is more readily and more effectually prevented by crowding a sponge into the fauces than by the use of a Trendelenberg's tube. In the course of my operation a little blood escaped into the trachea, but I found it a very easy matter to swab it out with a small piece of sponge held in the grasp of a forceps.

The condition of the patient since the operation, has been in all respects satisfactory.

SARCOMA OF ORBIT.

Dr. C. S. Bull presented a specimen of the above with the following history:

James Hoey, æt. 22. Dec. 15, 1879. Ptosis and exophthalmus of left eye for two weeks, steadily increasing. Convergent squint in left eye since childhood. Motion of eye limited in all directions, but mostly outward and inward. No bruit, or pulsation, or thrill of any kind. $V=\frac{20}{20}$. No limitation of field, and no abnormality in the retinal circulation. No pain.

Dec. 22d.—Constant dull pain for two days in orbit. Chemosis of ocular conj. over ext. rect. muscle. Narrowing of arterial calibre on disk; some signs of perivasculitis. Heart examined, and faint regurgitant murmur at apex heard, also murmur at the base with each sound.

Dec. 24th.—On floor of orbit, reaching from infra-orbital notch to canthus externus, can be felt a hard, resisting growth, which presses the lower lid forward, and this can be followed for some distance back into the orbit. Very sensitive on pressure, and the seat of a constant dull pain. $V=\frac{40}{200}$, and with $+14=\frac{20}{50}$. Operation for removal of the tumor advised and declined, and patient disappeared from view till Feb. 26, 1880. Exophthalmus then very marked. Eye shoved upward and inward. Lower half of cornea opaque and necrotic; upper half anæsthetic. Dense infiltration of palpebral and ocular conj. below horiz. meridian. Lower lid completely everted, and eyeball immovable. V=faint perception of light. Orbital growth very prominent at external angle. Pain very severe and constant. Well-marked signs of orbital cellulitis. Patient very anæmic and exhausted. Enucleation of tumor the same day with comparative ease. It was loosely adherent to orbital tissue, and somewhat firmly, at one point, to sheath of optic nerve. After its removal orbital tissue found so densely infiltrated, and signs of cellulitis so well marked, that it was deemed best to enucleate the eyeball.

March 20th.—Orbital tissue and conjunctiva so infiltrated as to project between the lids, and a plastic operation was necessary to restore the tissue to its place, and make room for an artificial eye.

April 5th.—Well-marked signs of recurrence of tumor in tissue on floor of orbit, the lower lid being pushed forward.

April 13th.—Second operation for removal of growth. External canthus incised, and inferior tarsal ligament divided. Growth found to be closely adherent to periosteum of lower margin and floor of orbit, and reached back to apex. Very vascular and not encapsulated. Patient lost a great deal of blood. Orbit was completely cleansed, and periosteum stripped up from margin and floor of orbit for some distance backward. Orbit then washed out by solution of carbolic acid (1 to 20), but hemorrhage was continuous, and orbit had to be plugged. Violent reaction followed in skin and subcutaneous tissue of lids, cheek, and temple. On third plug had to be removed, and on washing out the cavity the hemorrhage returned. This was checked with hot-water thrown in with a syringe. The patient passed safely through an attack of cellulitis of the corresponding side of face, and at date of present writing (May 23d) there are no signs of a recurrence of the tumor, and the orbit is granulating well from the bottom.

MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Fourteenth Annual Meeting,

Held in Princeton, May 25 and 26, 1880.

(Special Report for The Medical Record.)

Tuesday, May 25th—First Day.

The Society met in the lecture-room of physics, in the School of Science building, at 8 o'clock P.M., and was called to order by the President, Dr. A. W. Rogers, of Paterson. Vice-presidents Drs. A. N. Dougherty, L. W. Oakley, and John W. Snowden, and others, were in their respective seats. Prayer was offered by the Rev. Dr. Murray, of Princeton.

The President of Princeton College, Dr. McCosh, and other members of the faculty, the resident clergy, and all physicians who were present, were invited to seats during the sessions of the Society, as corresponding delegates.

The Committee on Organization reported the list of delegates. Notwithstanding the intense heat of the day, there was a large attendance of members.

ANNUAL ADDRESS OF THE PRESIDENT.

The President read the annual address, the subject of which was the personal ethics of the physician, embracing his aspirations, motives, habits, and affinities, which clothe him as an atmosphere, and make him what he is and hopes to be.

The various committees were announced by the President.

S. Wickes, M.D., offered his resignation as Chairman of the Standing Committee, stating that he had held the office for twenty years, and that he had taken much pleasure in the discharge of its duties, but felt that the time had come when he should withdraw from the position. After the expression of warm appreciation of his services by members of the Society, his resignation was accepted, and, on motion of Dr. D. S. Smith, the following resolution was adopted:

Whereas, Dr. S. Wickes having resigned his position as Chairman of the Standing Committee, a position which he has held for twenty successive years, discharging its duties with delicate tact, accurate knowledge, and untiring energy; therefore, be it

Resolved, That the thanks of this Society are markedly due to him, and are hereby tendered to him, for the manner in which he held himself in that important position.

Dr. McCosh, the President of the College, extended an invitation to the members of the Society to call at his house socially, after the adjournment, which was accepted. Adjourned.

Wednesday, May 26th.—Second Day.

The President in the chair.

Delegates from corresponding societies: Dr. Charles O'Lary, from Rhode Island Medical Society, Dr. Robert Newman, from the Medical Society of New York, and Dr. John C. Pennington, from the Medical Society of Massachusetts, on their presentation, duly responded, and in return were cordially welcomed by the President.

The Corresponding Secretary read letters of regret at inability to attend from Drs. Ferris Jacobs, of New York, Prof. J. C. Hutchison, of Brooklyn, and Dr. Oscar Allis, from Philadelphia.

Drs. S. Wickes and Joseph Parrish, honorary members, were present.

THE MEDICAL HISTORY OF THE PAST YEAR IN NEW JERSEY.

The report was read by Dr. Wickes, the chairman of the committee.

In the review of the reports, the medical history of the year may be summed up as follows:

First. An unusual freedom from diseases of the intestinal canal.

Second. Less scarlatina, diphtheria, and other contagious and infectious diseases, than for a long series of years before.

Third. A moderate amount of the diseases of the air-passages, without marked fatality.

Fourth. Small-pox is reported in one town only, viz., Salem, where ten cases occurred, supposed to have been imported from Philadelphia. Two proved fatal.

And lastly, an almost universal prevalence of fevers of malarial origin, generally mild in type, amenable to treatment and seldom fatal. This statement is very suggestive, contrasted with the report of the standing committee twenty years ago, when, after carefully collating information obtained from all parts of the State, the committee reported thus: "There is a general subsidence of miasmatic diseases everywhere, and in almost all the counties of the State noticed . . . . intermittents may be said to have ceased to exist."

Dr. Condit, of Morris, reports great success in the treatment of influenza with jaborandi to the production of free diaphoresis.

In Essex County, cresylic acid has been found valuable in the treatment of pertussis, by Dr. Love, while Dr. Wilmurth uses with success in the same diseases, oxalate of cerium, administering a single daily dose of two to four grains.

Dr. Hunt enters a protest against so-called "new remedies" in the following vigorous language:

"New remedies follow each other with the painful haste of the plagues in Egypt. As a rule the newest is less useful than the predecessor it displaces. The druggists usurp the methods of the quacks, and with a cool audacity prey upon the profession. Instead of issuing almanacs they print journals, with a meagre ballast of stale medical information copied from reputable sources, and pages of self-laudatory advertisements and certificates from bogus or pliant doctors, of this or that impossible preparation . . . . A publication of this class just received contains an infamous advertisement of medical scholarship certificates, transferable, for sale by parties in Philadelphia. So these men assist in aspersing the character of medical diplomas in that city."

The questions offered by the committee for the consideration of our medical men were:

1st. The therapeutics of aconite.

2d. The relief of the headaches of the menstrual period.

Replies to the first question show that, though not in general use, aconite is employed by a very considerable proportion of physicians the record of whose experience furnishes quite a satisfactory estimate of its claim to general adoption.

A summary of its properties shows that it is useful in pneumonia and other inflammations of the respiratory organs, particularly when of sthenic type; in fevers of high grade and with inflammatory action; in eruptive fevers with high temperature; in all mucous inflammations of a tonic character, and in facial erysipelas. It is an arterial sedative, and allays nervous irritability, is useful in neuralgia locally, increases the action of the skin and kidneys; but its special value is to reduce the force and frequency of the heart's action, and lower the temperature.

The answers to the second question have been full, and have ably met the purposes of the inquiry. But the complex nature of the various pathological conditions involved prevent the committee formulating these opinions without extending its report to too great length.

The committee called the attention of the Society to the report of the semi-centennial anniversary of the Burlington District Society; to the circular of the Department of the Interior regarding bogus medical diplomas; and to the act, passed at the last session of the State legislature, regulating the practice of medicine and surgery, which forbids any person to practice medicine in the State unless he or she be a graduate of some regularly chartered institution, who shall file a copy of his or her diploma with the clerk of the county of residence, paying to him ten cents therefor, with penalties for nonconformity to the requirement. It further makes the offer of a diploma issued to another, or a diploma issued or obtained fraudulently, a high misdemeanor, with heavy penalties upon conviction.

The necrology of the year is as follows:

Dr. Samuel Lilly, of Lambertville; Dr. Zachariah Read, of Burlington; Dr. I. S. English, of Monmouth; Dr. Marshall Paul, of Burlington; Dr. Stephen Personette, of Essex; Dr. W. M. Woodruff, of Elizabeth; Henry Ward, of Newark.

Delegates to corresponding societies read their reports: Dr. S. H. Pennington, to Rhode Island; Dr. Townsend, to Pennsylvania.

Drs. J. C. Hutchinson, of Brooklyn, and Prof. Brackett, of Princeton, were elected honorary members of this Society.

The Corresponding Secretary read his annual report.

The Committee on Treasurer's Accounts reported that it had examined the accounts of the Treasurer and found them correct. Also recommended that the assessment for next year be two dollars per capita for members of district medical societies.

The following persons were proposed for honorary membership: Prof. T. A. Emmett, of New York, by Dr. L. W. Oakley; Dr. Isaac Taylor, of New York, by Dr. H. G. Taylor; Dr. Janeway, by Dr. Beard; Prof. T. G. Thomas, by Dr. A. N. Dougherty.

THE ABUSE OF THE OBSTETRIC FORCEPS.

Dr. Snowden, of Camden, read a paper entitled, "The Abuse of the Obstetric Forceps." After portraying the dangers to the perineum and cervix uteri from the too early and rash use of forceps, and quoting many eminent authorities in support of his views, the doctor concluded as follows: "It is not the aim of this essay to oppose the proper use of the forceps, but it is the unnecessary use in the hands of the skilful operator, and the misuse and its fearful consequences under the management of the unskilful, which should be deprecated by the thoughtful members of the profession."

SOME OF THE PHENOMENA ASSOCIATED WITH ANÆSTHESIA.

Dr. P. V. Hewlett, of Newark, read a paper "Upon the Peculiar Hallucinations incident to the Production of Artificial Anæsthesia, and the Persistence of their Effects upon the Minds of those subjected to its Influence, and upon the Question how far this Condition should affect the Credibility of any Person as to the Events transpiring during the Inhalation, with its Medico-legal Bearings." The doctor considers the physiological effects of anæsthetic agents, and divides the stages into three, which he describes as follows:

The first stage, that of inebriation, which is usually agreeable; consciousness is impaired, vision is slightly affected, though sensation is but slightly blunted. In this stage a person's testimony is reliable, but there is sufficient power of resistance to violence.

The second stage. Here the mental functions are impaired, but not entirely suspended; consciousness is imperfect; a sort of dreamy state supervenes; the subject is intoxicated, not dead-drunk, but in the condition described by the law as drunk and incapable.

The third stage, where all voluntary motion is paralyzed, the mental faculties in complete abeyance, etc.

In the second and third stages, the mental functions are so impaired as to render them incompetent to act as reliable witnesses.

The doctor quotes many instances of prosecutions for rape made by women who have been anæsthetized, against the administrators of the anæsthetics, and after analyzing them draws the following conclusions:

First. That if a person be fully anæsthetized, she cannot be a competent witness, as no one can give credible testimony who is unconscious and insensible at the time she professes to describe her sensations and feelings, whether these sensations are painful or pleasurable.

Second. That if the person is not fully anæsthetized, she is not a credible witness, for if she is in the second stage or degree of anæsthesia, she may be laboring under the delusions and hallucinations common to this stage; and,

Third. If she is in the first stage, and claims she was conscious but unable to offer resistance, the assertion is so inconsistent with the thoroughly well-known facts and phenomena uniformly attending the administration and use of these agents, it should be looked upon as false—for all authorities agree that during the first stage the intelligence is not affected, and consequently the power of resistance is not lost.

MECHANICAL TREATMENT OF ABNORMAL CONDITIONS OF THE ANKLE-JOINT.

Dr. C. F. Stillman, of Plainfield, gave a very interesting and instructive address on the mechanical treatment of abnormal conditions of the ankle-joint, which he fully illustrated by diagrams and apparatus.

OFFICERS FOR 1881.

The following were elected as the officers for the ensuing year:

For President.—Dr. A. N. Dougherty, of Newark.

For Vice-Presidents.—Drs. L. W. Oakley, John W. Snowden, and S. Wickes.

For Corresponding Secretary.—Dr. Wm. Elmer, Jr., of Trenton.

For Recording Secretary.—Dr. Wm. Pierson, Jr., of Orange.

For Treasurer.—Dr. W. W. L. Phillips, of Trenton.

For Standing Committee.—Drs. Joseph Parrish, C. J. Kipp, and S. S. Clark.

For Delegates to American Medical Association.—Drs. J. S. Cramer, F. W. Miller, David Warman, J. H. Love, J. D. Heratage, J. S. Long, J. A. Currie, D. S. Hardenburg, Thomas Ryerson, J. S. Whitaker, and N. Williamson.

For Delegates to Massachusetts Medical Society.—Drs. C. F. Stillman, Thomas Ryerson, and D. C. English.

For Delegates to Connecticut Medical Society.—Drs. H. G. Wagoner, H. C. Buckingham, and H. A. Hopper.

For Delegates to Rhode Island Medical Society.—Drs. D. Benjamin, F. W. Miller, and W. M. Baird.

For Delegates to Pennsylvania Medical Society.—Drs. E. P. Townsend, I. H. Griffith, and G. H. Dickinson.

For Delegates to New York Medical Society.—Drs. I. S. Green, D. A. Currie, and A. C. Hoffman.

It was voted that the next place of meeting should be at Long Branch.

The following resolutions were adopted:

"*Whereas*, The Salem County District Medical Society has for many years failed to maintain a complete organization, and has not been represented in the State Society by its delegates, and in consequence thereof the Society has been dropped from the roll of societies represented in the State Society; and whereas the said Society has reorganized, adopting a constitution in accordance with the constitution of this Society; therefore,

"*Resolved*, That the Salem County District Society be restored to the roll of societies in connection with the Medical Society of New Jersey.

"*Resolved*, That the accredited delegates of the Salem District Society be admitted to seats as members of this Society upon conforming to the usual rules regulating the admission of delegates, and upon condition that Article 2 and Article 12 of its constitution be altered according to the suggestion of the Standing Committee."

BOGUS DIPLOMAS.

The following was adopted:

"*Whereas*, It has come to the notice of this Society that spurious diplomas emanating from Philadelphia, Penn., from colleges which have no legal existence, have been offered for sale in foreign countries, to the great disgrace of the United States of America; and whereas the State of New Jersey, at the last annual session of its legislature, has deemed that no one shall practise medicine or surgery within its bounds except under a diploma from a legally authorized college or medical society; therefore,

"*Be it resolved*, That the members of the several district medical societies solicit the county clerks in their respective counties to carefully inspect all diplomas submitted to them for registration, to see whether they are in accordance with the law, and that district medical societies be requested to secure the record of all physicians in their respective counties, as required by law, and report to this Society, to the end of purifying the profession and protecting the public from imposture.

"*Resolved*, That a copy of these resolutions be transmitted to the Hon. John Eaton, of the Bureau of Education at Washington, and that he be requested to send to the Recording Secretary of this Society a list of such colleges as are recognized at the Bureau of Education at the seat of government."

PRELIMINARY EDUCATION.

DR. E. V. TOWNSEND offered the following, which was adopted:

Resolved, That it shall be the duty of each county society of this State to appoint a committee of three of its members, who shall examine all applicants for the study of medicine, as to their mental and moral fitness for the profession, and no member of such county society shall admit a student into his office, unless he possesses an acceptable certificate from said committee, or a diploma or certificate of graduation from some respectable institution of learning.

On motion of DR. GAUNT, it was

Resolved, That the reporters of the district medical societies, respectively, shall issue the following to the members of their respective societies:

1st.—What do you consider the cause of intermittent fever? 2d.—What do you consider the cause of malarial fever? 3d.—What do you consider the cause of typho-malarial fever? 4th.—What do you consider the cause of typhoid fever?

THE NEW JERSEY SURGEONS IN THE REBELLION.

On motion of DR. OAKLEY, the following resolutions were adopted:

Whereas, In the History of the Medical Men and Medicine in New Jersey, by Dr. S. Wickes, in his sketch of Dr. James de Benneville is found this passage: "He was a surgeon in the war of the rebellion, and one of those brave men who refused to desert his hospital when captured before Richmond, though many did";

And whereas, The statement not being in keeping with the facts, and being unsupported by any reliable evidence, is calculated to do injustice to the medical officers of the army, to those from this State who did their duty conscientiously and fearlessly, and if uncontradicted, would leave a stain in history upon the memory of those now living, as well as upon that of their dead professional comrades—therefore,

Resolved, No facts have come to the knowledge of this State Medical Society, in regard to any surgeon from New Jersey, which can in any way authorize the above statement.

Resolved, That a copy of this preamble and these resolutions be placed upon the minutes of this Society, to counteract, as far as possible, any erroneous impressions which may be left by the passage referred to.

On motion, it was agreed to continue the publication of the old records of the Society. Dr. Wickes was appointed on the Committee of Publication.

Adjourned.

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MASSACHUSETTS MEDICAL SOCIETY.

Ninety-ninth Annual Meeting.

THE ninety-ninth annual meeting of this society was held in Horticultural Hall, Boston, on Tuesday and Wednesday, June 8 and 9, 1880.

As usual, the first day was wholly occupied in the reading and discussion of medical papers.

PNEUMONITIS.

The first paper, on pneumonitis, by Dr. C. D. Hunking, of Haverhill, was largely devoted to the consideration of whether the disease in question was of a constitutional or local character. The writer's conclusions were:

First.—In regard to its character. Croupous pneumonitis, according to high authority, is considered to be an acute, non-contagious, but infectious disease.

Second.—As to treatment. This consists mainly in supporting the action of the heart, and controlling the fever by anti-pyretic remedies and stimulants. Attention should be given to the nutrition of the patient, and pain and insomnia relieved by appropriate remedies. In convalescence chalybeates are indicated.

In an animated discussion which followed the reading of the paper, one member remarked that much of the treatment of pneumonia of late had been with the view of its being an infectious disease. The disease will sometimes follow erysipelas of the face, seeming to be a continuation of the disease by the mucous surfaces from the nose and pharynx downward, rather than from a septic poisoning of the system. The evidence of croupous pneumonia being followed by phthisis is said to be small, yet the speaker knew of a case where the pneumonic dulness did not clear up, and post-mortem examination showed solidification of the lung, and even cavities formed.

Another speaker referred to the importance of sustaining patients from the beginning of the disease; give nourishment and tonics; avoid anodynes as much as possible. The fl. ext. of jaborandi, ten drops, with two grains of quinine, given every two hours, has been a favorite form of treatment.

Another member said he recollected when it would have been considered criminal not to bleed patients suffering from pneumonia, although the fashion has passed away. He thought fully as large a percentage of patients recovered then as under the modern treatment.

A paper on

PYÆMIA OF DOUBTFUL ORIGIN, APPARENTLY SPONTANEOUS.

was read by Dr. C. H. Cook, of Natick. It was based upon a case of a lady under the care of the reader, in whom symptoms of pyæmia developed without any discoverable traumatism. The post-mortem examination showed abscesses of the thigh, burrowing in between its muscles. In the posterior and middle portion of the lower lobe of the right lung there was found an abscess containing ℥j. of pus, and the pulmonary artery contained an embolus corresponding to the location of the abscess. The left kidney contained a wedge-shaped abscess at its upper extremity. There was also a larger abscess in the right kidney, near one of the pyramids. The liver, on microscopic examination, showed extreme fatty infiltration, and some fatty degeneration of the hepatic cells. The right buttock was found to be a bag of pus. No source of pus was found.

The subject of the third paper, by Dr. A. T. Cabott of Boston, was

ANTISEPTIC TREATMENT OF EMPYEMA.

The reader held that the use of the spray in operating for empyema is of value—though denied by some—and gave the details of his method of operating, and the history and results of cases observed by him.

Dr. H. F. Borden, of Brockton, read a paper on

ŒDEMA OF THE LUNGS, WITH ILLUSTRATIVE CASES.

The cases reported were those of sudden death, seemingly from acute pulmonary œdema. The reader discussed the pathology of such cases, and summed up his views as follows: In acute non-inflammatory œdema of the lungs, the conditions for its production are twofold. I. A cause or causes which first lead to accumulation of blood whose local pressure becomes greater than normal, varying in intensity according to the agents in its production. II. A loss of natural vitality and power to resist serous transudation in the walls of the vessels, brought about by a change in their nutrition, due to some abnormal condition, recognizable or not.

THE RELATION OF BACTERIA TO DISEASE,

was the subject of a paper by Dr. W. F. Whitney, of Boston. The paper gave a brief sketch of the classification and mode of development of these organisms, together with a consideration of the points in favor of regarding them as the originators of the diseases with which they are found associated. The disease, the parasitic origin of which is best established, is known as gangrene of the spleen—charbon. When communicated to men it has received the name of malignant pustule. The mode of development of the bacillus anthracis in this disease, as observed by Kock, was described. Another disease with which bacteria are intimately connected is recurrent fever. The natural history of the parasite in this disease is not as well known as is that of charbon. Septicæmia in mice, progressive necrosis of tissue (gangrene) in mice, progressive abscess-formation in rabbits, pyæmia in rabbits, as the result of experimentation, were also described. The occurrence of micrococci in the membrane of diphtheria, in the blood of persons suffering from erysipelas, were alluded to.

Dr. A. F. Reed, of Holyoke, read a paper entitled,

DIPHTHERIA, AND THE RESULTING PARALYSIS.

Its object, as stated, was to call attention to the nature of the poison of diphtheria, and also to some of the points relating to the origin and peculiarities of the resulting paralysis.

Dr. C. P. Putnam, of Boston, illustrated the

AMBULATORY TREATMENT OF HIP-DISEASE,

by the exhibition of a large number of patients, most of whom were wearing a splint of his own invention. This exhibition concluded the exercises of Tuesday.

The Society reassembled at nine o'clock A.M. on Wednesday, to enter upon the anniversary exercises. After the reading of the records of the last annual meeting, and of the Treasurer's report, a paper on

THE IMPORTANCE OF EARLY RECOGNITION OF EAR DISEASE

was read by Dr. J. O. Green, of Boston. The varieties of trouble resulting from inflammation of the mucous membrane of the tympanum were referred to, and the pathological processes resulting from originally slight and neglected causes, were mentioned. Many of the primary inflammations of the tympanum come on so insidiously, and with so little inconvenience to the patient, that the mild symptoms are ignored or forgotten, and too often relief is only sought when the functions of the ear have become greatly impaired, and pathological changes which cannot be cured, and perhaps but slightly alleviated, have resulted.

Dr. Peter Pineo, of Hyannis, presented a paper entitled

CAPE COD AS A HEALTH RESORT,

and some remarks pertaining to sanitary science. On the southern shore of this peninsula, from Falmouth to Chatham, a distance of forty miles in a straight line, there is a climate whose temperature is lower in summer and higher in winter, and less variable than elsewhere in New England. The summers, as a rule, are exceptionally dry. The soil is a light, thin, sandy loam; vegetation being scanty, is not sufficient to excite fears of malarial poison from its decomposition. The zymotic diseases were stated to be of rare occurrence, and the cases of diphtheria and enteric fever which had been seen by the reader had invariably been traced to a filth origin. The paper also enforced the importance of cleanliness in person and surroundings as the price of health—the great duty of life.

A demonstration of litholapaxy by its orinator, Dr. H. J. Bigelow, of Boston, was witnessed with great interest by the Society. Dr. Bigelow stated that the dogma taught by Civiale and the lithotritists who succeeded him, that the danger of irritation and inflammation of the bladder in the operation of lithotrity was in proportion to the time that the instruments were left in the bladder, had been held and taught by Sir Henry Thompson and others. But the true cause of the vesical irritation is the angular fragments of stone which are left in the bladder after crushing. Hence the importance of removing them at a single sitting. The urethra, as demonstrated by Otis, will tolerate a much larger instrument than those made by the old English scale. The success of the new process is due to the substitution of a larger tube than was used by Clover in his evacuating instrument. Dr. Bigelow exhibited his ingenious and effective lithotrite and evacuating apparatus.

Delegates from New Hampshire, Rhode Island, Connecticut New York, and New Jersey, were introduced to the Society.

The annual discourse, by Thomas H. Gage, M.D., of Worcester, was upon the "Possibility and the Practicability of the Prevention of the Spread of

Typhoid Fever." This he would accomplish by the disinfection of the intestinal discharges of fever patients. Alluding to the well-known fact that the disease, once introduced into a household or community, often attacks many of its members, he held to the doctrine that the malady often need not extend beyond the individual first attacked, and bringing the disease, provided his alvine discharges were properly disinfected. Reference was made to epidemics of typhoid fever arising from the contamination of the water supply with typhoid excretions which had not been disinfected. The views of Dr. Budd on the subject of disinfection and preventive medicine were quoted at length, and with approval. Reference was also made to the prevalence of typhoid fever and its ravages in this State during the past forty years.

At the close of the discourse, a vote of thanks was presented to the orator for his able and interesting address.

After the introduction by the retiring president, Dr. Lyman, of the president elect, Dr. Williams, the Society proceeded to the Music Hall to enjoy the festivities of the annual dinner.

The following officers were chosen by the councillors for the ensuing year:

President—Dr. Henry W. Williams, of Boston.

Vice-President—Dr. Asa Millet, of East Bridgewater.

Orator—Dr. J. Collins Warren, of Boston.

Anniversary Chairman—Dr. James C. White, of Boston.

The next annual meeting will be held in Boston on the second Wednesday in June, 1881.

Correspondence.

BENZOATE OF SODIUM IN PNEUMONIA.

To the Editor of The Medical Record.

Sir:—I take the liberty of writing to you in regard to my experience with benzoate of sodium in scarlet fever, diphtheria, and a peculiar epidemic form of pneumonia which has prevailed in this vicinity (and, as I understand, in various parts of the State) for the past three months.

I think I never used a drug with more satisfactory results, and am desirous that it be thoroughly tested by others.

I am sorry to say that I have kept no record of my cases, as I had no thought of publishing or otherwise using them until quite recently; consequently, can only relate circumstances from memory. Just about a year ago (July 17, 1879), I read an article in the *Boston Medical and Surgical Journal* relative to the use of benzoate of sodium in diphtheria and other diseases dependent on blood-poisoning, which impressed me so favorably that I determined to use it at the first opportunity.

I first used it in a case of puerperal fever. Under its use the fever soon subsided and the patient convalesced. The next case in which I used it was a case of diphtheria and scarlet fever combined, occurring in a boy ten years old. When first called to this case, I recognized it as a severe case of diphtheria, with no indications of any complication. The temperature was 104° F., profuse perspiration, and much prostration, with fauces pretty well filled with diphtheritic deposit.

Treatment was at once commenced with benzoate of sodium, in such doses as to use ʒ ij. every twenty-four hours. My prescription was as follows:

℞. Sodii benzoat.................... ʒ ij.
Aqua mentha pip................ ℥ ss.
Syrup aurantii.................... ℥ ss.
Aqua dest......................... ℥ iij.
M. Sig.—Dose, tablespoonful every three hours.

At the same time that I commenced with the benzoate, I prescribed tonic doses of quinine every four hours, and made use of a gargle, composed of tannin, gr. iv.; morphia sulphate, gr. j.; vinegar, four tablespoonfuls, and water, eight tablespoonfuls, alternating it with a gargle of saturated solution of potassa chlorate. The temperature fell half a degree during the first twenty-four hours, at which time the eruption of scarlet fever began to make its appearance. Contrary to former observations, the fever kept coming down at the same time the eruption and tumefaction of the skin progressed, so that when the eruption was at its height the temperature stood at 102°. The deposit in the fauces came off about the time the eruption had fully faded, the patient convalescing and gaining full strength much sooner than I expected.

Since then I have treated three other cases of uncomplicated diphtheria, with just as good results. In the beginning they were all bad cases, a malignant type of the disease being then prevalent in the community.

About six weeks since we commenced having pneumonia in an epidemic form. In some instances two and three cases would come down in the same family at the same time. There was in many cases much nausea, and often vomiting in the beginning of the difficulty; and in nearly all cases they complained early of a "bad feeling" in the region of the stomach and upper bowels. Moderate fever seemed to precede the lung trouble which soon followed, and was ushered in with high fever, the temperature often reaching 106°, and in some instances 107°.

My first cases were treated with large doses of quinine, to control fever and relieve congestion; expectorants and anodynes to relieve the cough; tonics and supporting measures to sustain the patient. Notwithstanding, all so treated were saved; most of them were terrible cases. I soon came to the conclusion that the inflammation of the lung was not the primary disease, but that it was dependent on some poison in the system, which, in being eliminated through the lung, or acting upon it in some way through the blood, produced congestion and inflammation. As soon as this conclusion was reached I felt that benzoate of sodium promised more than anything else, and immediately commenced using it.

Since then I have been called in all stages of the disease, from the initiatory fever, which has marked the cases in this vicinity (though some have commenced with a chill, like ordinary pneumonia), to the stage of softening and expectoration, and in every instance its use has been followed by the same results. The temperature soon begins to fall. The tongue exchanges its brown coating for a white one, and a dangerous case has soon changed to a hopeful one.

I will give you the history of a case that I was called to see, Friday, May 7th, 4 P.M. Patient, a married man, about forty years of age, had been feeling badly for about a week previous; complained of loss of strength; "bad feeling" in the region of stomach and upper bowels, and much pain through lower part of right lung. Had a severe chill at 2 P.M. the day before. Temperature, 106° Fahr. Tongue brown, considerably furred, put out with difficulty, and very tremulous. Much tremor of the hands. Lower half of right lung engorged and useless. Body covered with perspiration, and every indication of great prostration. Prescribed soda benz. ʒ ijss., syrup aurantii ℥ ss., aqua mentha pip. ℥ ss., aqua dest. ℥ iij.; mix; dose, tablespoonful every three hours; quinine in tonic doses every four hours; milk and beef-tea every three hours; mustard poultice to chest, to be followed by flaxseed-meal poultice; cold water sponging every twenty minutes, until the fever began to come down. With the exception of the cold sponging (which was only kept up for a few hours), this treatment was continued until convalescence was established. Saturday, May 8th, 3 P.M.—Temperature, 104¾°; tongue, about half of it covered with white fur; patient's general appearance much better. Sunday, May 9th, 11 A.M.—Temperature, 96½°; tongue covered with white fur; patient comfortable, but very weak. Monday, May 10th, 11 A.M.—Temperature, 99°; ordered enema, to move bowels. Tuesday, May 11th, 11 A.M.—Lung very sore, which is felt when attempting to move, but free from pain when keeping still. Wednesday, May 12th, 11 A.M.—Temperature, 97°.

As a result of its use in pneumonia I have observed the temperature to lower, coming steadily down. The brown coating of the tongue disappears, and a white coating, very much like that produced by the use of turpentine in enteritis, makes its appearance; the cough softens and expectoration is free, and in a very few days the patient is left with simply a sore lung and weakness to recover from. The duration of the attack having been much shorter, of course recovery is more rapid. The dose, as given in the journal, is, for children between one and three years of age: ʒ ij. of the sodium dissolved in three and a half ounces of the vehicle, given so as to use all in twenty-four hours, in half to tablespoonful doses. Infants may use ʒ j. in the same way, only in smaller doses, given more frequently, but so to consume the whole in twenty-four hours. Children between three and seven should use from two to two and a half drachms. Those over seven take from ʒ ij. to ʒ iv., and adults from ʒ ijss. to ʒ vj. daily.

The author states that "an unpleasant after-effect has never been observed, not even in young infants." This accords with my experience. The diphtheritic membrane was treated with powdered benzoate of sodium, applied through a tube.

I desire to call the attention of physicians to this drug, and should be glad to have them test its merits and report. Yours truly,

C. B. CADY, M.D.

SHEBOYGAN FALLS, WISCONSIN, May 12, 1880.

* * *

MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER.—The Eighty-second annual meeting of the Medical Society of the County of Westchester was held at White Plains, Tuesday, June 15th. A large number of the profession of the county were present and the meeting was one of unusual interest and profit. Reports of delegates to the National and State Societies indicated that they had been faithfully at tended and with signal benefit.

POISONING BY CORNED BEEF.

To the Editor of The Medical Record.

SIR:—On the morning of June 15th I was asked by a messenger to visit Fort Lee and attend to some people who, as he stated, had been vomiting all night, and were thought to have been poisoned.

On arriving at Fort Lee, I found that during the past night, between twelve and one o'clock, about eight or a dozen people, mostly employees, had been seized with violent nausea, vomiting, and purging, preceded by a bitter metallic taste in the mouth. The character of the vomited matter in color was "green as grass" and in taste very bitter.

Of course, this history led me to suspect poisoning, and in further pursuing my investigation I learned that for dinner the night before these people had eaten largely of corned beef and lettuce. Having read not long ago a case of poisoning by lettuce, I was led to look at that, or the parasitic poison which might have been connected with it, as the possible cause; but my mind was soon disabused of this idea on learning that they had long eaten of this article of food, and that those who had eaten of the lettuce and not of the corned beef had escaped entirely, while all who had eaten at all heartily of the beef were invariably affected. The connection of these symptoms so closely with the last meal led me, without doubt, to connect them with it. On making inquiry of the cook concerning the corned beef, I was told that it could not possibly be due to the corned beef, as it was very nice and had been prepared by himself, remarking that had it been pressed beef it would have been different. I subsequently learned that the beef *had* been prepared by the cook, and that in copper vessels. This, of course, immediately cleared the case, and put it beyond all doubt in my own mind. Most of these persons were convalescent, with considerable nervous exhaustion and gastro-intestinal irritation.

Although this meat has not yet been chemically examined, no doubt could exist in the matter, and this article of food was requested to be discontinued from the bill of fare. The lesson to be derived from these cases is that copper vessels *should not* be used in preparing food, because no matter how clean they may be kept, there always exists a possibility of danger; and if people will not learn this lesson themselves, it would be well to make it a criminal matter.

JUDSON C. BROWN, M.D.

208 WEST 125TH STREET. N. Y., June 16, 1880.

* * *

INCOMPETENT DRUGGISTS.

To the Editor of The Medical Record.

DEAR SIR:—I have seen in your paper sundry articles on druggists, with hints how to remedy the evil. That the incompetency of certain druggists is a source of great trouble to some physicians cannot be doubted. The physician orders a certain combination from which he expects certain results; the druggist misreads the prescription, and the doctor is disappointed with the action of the medicine. While the medicine may do no harm, it does not do the good intended. I call to mind a case in my practice, where I ordered a mild, unirritating mixture. What the druggist put up I know not, but every time the medicine was given to the child, what little escaped the mouth raised a blister wherever it touched. The result was, the mother took the child to another doctor; he prescribed (according to the mother's statement) about the same thing; she had the medicine mixed by the same druggist, and it, too, acted the same. He then gave the same prescription and sent her to another store, where the medicine was compounded correctly, and obtained the result desired. Later she brought the patient back to me, convinced that I was not to blame, but the druggist. During the night of May 31st, I sent the following prescription to a drug store on Broadway, above Seventy-first street:

℞. Tr. opii camph.................. ʒ iv.
Potas. nitratis................. .... ʒ i., ℈ iv.
Syr. tolutan,
Aq. cinnamon, āā ad .... ℥ iv.
M. Sig.—Tablespoonful every two hours.

I asked to see the medicine the next day, and was dumbfounded to find an eight-ounce mixture. I learned, on inquiry, that the druggist refused to get out of bed, and his wife put up the medicine. I called on the druggist and remonstrated with him for his error; he said to me: "What does that *ad.* stand for? we have no *ad.* in German." He tried to convince me that I had written for an ℥ viii. mixture, and when I insisted that it read plainly an ℥ iv. mixture, he kindly informed me that I was a fool. He said: "What is it for?" I told him, "None of your business." "You prescribe nitre for a cough, you're no doctor," etc. And when I insisted he had made an error, he ordered me out of his store. The remedy for all this has been suggested in your journal, viz.: to put up your own medicine. I can attest the value of this, for I have been preparing my own drugs for nearly two years. I find that patients like it much better, and I have obtained better results. In mixing your own medicines, you know that patients receive what you want them to have, as also the full quantity. The trouble is no excuse. Let the physician furnish the laboratory, and, if too busy to mix the medicines himself, hire a competent man, and know what the patient is taking. Any one who will try this plan will be more than gratified with the results. It is now time that physicians take this matter in hand, and render all further complaints against druggists unnecessary.

Respectfully, * * *

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from June 20 to June 26, 1880.

The following promotions and appointments are published:

Lieut.-Colonel W. S. King to be Surgeon with the rank of Colonel.

Major John E. Summers to be Surgeon with the rank of Lieut.-Colonel.

Asst. Surgeons Wm. E. Waters, Edwin Bentley, Geo. A. Otis, and Geo. P. Jaquett to be Surgeons with the rank of Major.

Rudolph G. Ebert, of Oregon, Robert J. Gibson, of Connecticut, Robert B. Benham, of Pennsylvania, Wm. C. Gorgas, of Alabama, Norton Strong, of Michigan, and Arthur W. Taylor, of New York, to be Assistant Surgeons, U. S. Army.

Cronkhite, H. M., Capt. and Assistant Surgeon. Granted leave of absence for two months. S. O. 134, A. G. O., June 18, 1880.

O'Reilly, R. M., Capt. and Assistant Surgeon. Granted leave of absence for one month on Surgeon's certificate of disability, with permission to leave the department. S. O. 73, Dept. of the South, June 18, 1880.

DeLoffre, A. A., Capt. and Asst. Surgeon. Relieved from duty in Dept. of the South, and upon arrival in Dept. of the Missouri under present orders, to report by letter to Comd'g Gen'l of that Dept. for assignment to duty. S. O. 137, A. G. O., June 22, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending June 26, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
June 19, 1880.	0	6	38	2	33	27	0	0
June 26, 1880.	0	7	27	4	32	38	0	0

The Death of Dr. Charles M. Allin.—The Board of Directors of the New York Eye and Ear Infirmary have heard, with regret, the announcement of the death of Dr. Chas. M. Allin.

His relations to the Infirmary began in 1852, when, for two years, he did duty as surgeon. He removed from the city and was not again connected with the institution until 1865, when, for three years, he acted as assistant-surgeon, and in 1868 he was made surgeon, and also entered the board of directors as director ex-officio. In 1869 he was appointed secretary to the board, and in 1875 he resigned his position as surgeon. The board then chose him to be a director, that he might legally retain his office as secretary, and in 1876 he was made consulting surgeon. In 1879 he was compelled, by the illness which ultimately terminated his life, to retire from the position of secretary, which he had held with great ability for ten years. At the time of his decease he remained one of the consulting surgeons, and also a director of the institution. Dr. Allin has thus fulfilled duties in the Eye and Ear Infirmary, of an important character, for eighteen years.

It was characteristic of him to be prompt, exact, careful, and cheerful in all his work. He fulfilled to the utmost his duty to the patients under his care, and in his office of secretary he was painstaking and precise. His courtesy and affable demeanor made his presence always welcome, and his intelligence rendered his opinions valuable.

The board, therefore, unite in the following resolution:

Resolved, That the directors express their sincere grief at the death of their late associate, Dr. Chas. M. Allin, who has been taken away in the prime of life from most useful activity in this institution.

They hereby record their sense of his worth and charm as a man, of his skill as a surgeon, and of his efficiency as a director and secretary to this board.

They recognize the debt which the institution owes to his long and laborious and faithful services.

Resolved, That the board respectfully offer to his family the assurance of their true sympathy, and that they share in their bereavement.

Resolved, That a copy of these resolutions be sent to the family of Dr. Allin, after being duly attested by the secretary and president, and be recorded on the minutes.

Benj. H. Field, *Vice-President.*
Richard H. Derby, *Secretary.*

Rhode Island Medical Society.—Annual Meeting, June 9, 1880.—The Society, to the number of eighty, convened Wednesday morning, June 9th, at Lyceum Hall, Providence. Dr. E. T. Caswell presided. Dr. Bullard, of North Attleboro, was present as delegate from the Massachusetts Medical Society.

The report on the Fiske fund showed that a prize of $200 had been awarded to Dr. Charles V. Chapin, of Providence, at present "house physician" in Bellevue Hospital, New York, whose essay on "The Sympathetic Nerve and its Relation to Disease" was pronounced to be of unusual merit. For 1881, a prize of $150 is offered for the best essay on either of the following subjects: "The Action of Medicines in the Cure of Diseases," and "Uterine and Ovarian Diseases as a Cause of Insanity." The Library Committee reported favorably as to increase in number of volumes and amount of money subscribed. It is hoped that an annual subscription of $600, and a building fund of $20,000 may be obtained. Nearly one thousand volumes have been collected. The report of delegates to the New York convention of the American Medical Association was highly commendatory. The committee appointed at the last quarterly meeting to consider the protection of physicians in the matter of "Expert Testimony," and also "The Regulation of the Practice of Medicine and Surgery," reported unfavorably so far as legislative action is concerned. Charles V. Chapin, M.D., George L. Wood, M.D., and Charles D. Albro, M.D., were made fellows of the Society.

The following officers were elected: President, Charles O'Leary, M.D., Providence; 1st Vice-President, Job Kenyon, M.D., Providence; 2d Vice-President, O. C. Wiggin, M.D., Providence; Recording Secretary, V. O. Hardon, M.D., Providence; Corresponding Secretary, E. M. Harris, M.D., Providence; Treasurer, C. H. Leonard, M.D., Providence. Dr. W. O. Brown, of Providence, read a paper entitled "A Study of Atmospheric Changes, as Influencing Health," in which it was claimed (1), that the lower animals are manifestly sensitive to atmospheric conditions; (2), chronic diseases, especially those of a neuralgic nature, are directly modified by the same, and that most pain is suffered on the *fall* of the barometer, or just *preceding* it; (3), epilepsy and chorea are most severe at certain seasons; (4), that the relationship of ozone to disease, whether causative, curative, or preventive, affords an interesting field for investigation; (5), that the inhalation of oxygen gas has unmistakable therapeutic value, eight gallons per diem being a safe quantity; and (6), that electricity is an important factor in modifying health.

The annual address of the retiring president, E. T. Caswell, M.D., on the subject of "Public Health as Provided for by Legislation," was excellent in every particular. It embodied an earnest plea for the establishment of State Boards of Health, which should not be mere figure-heads, but comprise men thoroughly educated in sanitary science. The annual dinner was served by Mr. G. M. Ardoene, at the Hotel Dorrance. Dr. George H. Kenyon, of Providence, was master of ceremonies. Hon. Abraham Payne, President Robinson, of Brown University, and Rev. Dr. E. G. Taylor, were present as invited guests. The occasion was in every way enjoyable.

Death of Dr. James C. Hall.—Dr. Hall died at his residence in Washington, D. C., June 7th. He was born in Alexandria, Va., July 10, 1805. Graduating in letters at Jefferson College, and in medicine at the University of Pennsylvania, he went to Washington in 1828 and began the practice of medicine. He had considerable means, and took an active interest in the affairs of the city. In 1830 he was appointed professor of surgery in the Columbia University. He became a member of all the medical societies of the district, and before many years stood at the head of the profession in that locality. Dr. Hall was a man of wide knowledge and ripe culture. His acquaintance with the classics was remarkably thorough, and was kept up till his old age. During the latter part of his life his failing health obliged him to give up very active practice, but he always kept himself thoroughly informed on the advances in medicine, and his services as a consultant were in great demand. Dr. Hall had the social qualities which win friends, and he leaves many to mourn his loss.

A Remarkable Case of Gastrotomy.—Dr. G. H. Boyland, of Baltimore, relates, in the *Boston Medical and Surgical Journal*, a very novel case of twin pregnancy and gastrotomy. The patient, aged twenty-two, was pregnant, for the fourth time, with twins. She had three living healthy children. She was confined in normal labor April 15th. From the appearance of the child, and the statement of the mother, it was believed to be born about one month before its time. The child lived. Subsequent to this, Dr. H. P. C. Wilson, who attended the case, by physical examination, concluded that there was another child in the abdominal cavity. Exactly three weeks and five days after the birth of the first child, he delivered, by abdominal section, the second child, a healthy boy, still living. The operation was that of gastrotomy, in technical distinction from Cæsarian section, the incision beginning three inches above the umbilicus. It was performed under Lister, and carried out in every detail. The child was found in a sac filled with about half a gallon of serous fluid. The placenta occupied the left half of the brim of the pelvis, and was composed of three distinct portions, being attached to the left side of the uterus, the left Fallopian tube, and the top of the left broad ligament. The woman lived ninety hours after the operation. There were no symptoms of pyæmia, septicæmia, or peritonitis. The woman had been cheerful and comfortable. She asked the nurse to raise her in bed; this was done, when she suddenly turned livid and died. The cause of death was probably embolism. Nothing was found to explain it at the autopsy.

Commencement at Long Island College Hospital.—The twenty-first annual commencement exercises of this college took place at the Brooklyn Academy of Music, June 23d. Forty-five students were graduated. The president of the collegiate department presided and conferred the degrees. Mr. R. W. Ropes, of the Board of Regents, opened the exercises, and in doing so said that the Long Island College Hospital had now reached its majority—its twenty-first anniversary. The city was deeply indebted to those who originated this college, which is now one of the finest in the country. Only once in the history of the institution had a larger class been graduated. Prayer was then offered by Rev. John D. Wells, D.D. The names of the graduates were read by Dr. Jarvis S. Wight. After conferring the degrees, an address was delivered by Rev. James M. Buckley, D.D., who was listened to with marked attention and was repeatedly applauded.

The prizes were awarded by Dr. Samuel G. Armor, Dean of the Faculty, after which a popular air was performed by the band. The exercises of the evening were brought to a close by Glen R. Butler, M.D., who delivered the valedictory.

A Convalescent Hospital is to be established in connection with the Massachusetts General Hospital, says the *Boston Medical and Surgical Journal.* Through the energy of a Boston lady, Miss Mary Russell, a fund has been started which is already large enough to authorize the trustees to begin the erection of a suitable building in the suburbs of Boston.

Hygiene and House-Plants.—According to Dr. J. M. Anders, in the *Philadelphia Medical Times*, the popular idea that house-plants are unhealthy things for sleeping and sick rooms is not correct.

The chemical changes which they cause in the air are insignificant. Their principal effect is to throw off moisture which is often beneficial. As a result of a number of inquiries among gardeners and florists, Dr. A. considers it probable that living in a room where there are plenty of plants has a certain prophylactic effect against phthisis, for those predisposed to it.

In a room of average size, say 20 × 16 × 12 feet, a dozen thrifty plants are enough to keep the moisture at a healthy standard. These plants should not bear flowers with heavy perfume, but should have soft, thin leaves, with extensive leaf-surface.

Drug-Stores in Philadelphia.—There are over seven hundred drug-stores in Philadelphia, says the *Reporter*, and not one of these could exist on its legitimate business of compounding prescriptions. The superfluity of drug-stores is due to the profits of patent medicine and counter-prescribing.

Yellow-Fever at Quarantine.—The second instalment of yellow-fever cases reached this city June 24th, on an Austrian bark. The vessel had come from Port de Paix, Hayti, and was bound for Boston. The entire crew were attacked with the fever, however, and were obliged to put into this port. When the vessel reached New York only the mate and a boy were well enough to navigate the ship. The captain and one of the crew had died; six others of the crew were reported to be in a precarious position.

Dr. R. J. Jennings of Arkansas. — The name Dr. R G. Young, of Arkansas, on page 640 of The Medical Record, should have been Dr. R. J. Jennings, of the same place.

A Plea for Chloroform.—Dr. A. G. Smythe, of Baldwyn, Miss., writes: Will you be so kind as to permit a backwoods general practitioner, and regular reader of the Record, to protest against the summary conviction and capital execution of chloroform as proposed in a recent number of the Medical Record, by your Milwaukie, Wis., correspondent. While I am and have all my life been only a general practitioner, most of the time in the country, and cannot marshal surgical cases by the thousands, yet I propose to offer a few facts that have come within my own knowledge.

At the outset it will be admitted that chloroform is a potent agent, and should be used with the utmost caution and prudence, the routine description of which will be supposed to be well known to your readers.

Immediately after the publication of the success of the administration of chloroform by Sir James Y. Simpson (say, as early as January, 1848), I procured a small quantity, with which I experimented upon myself in all the ways that I could without an assistant, and discovered that it almost invariably caused nausea and vomiting if taken a short time after eating. As early as February in the same year (1848), I administered it to a small boy, aged eight years, without any assistant or any person being present, and sucessfully performed a tedious and painful minor operation in the mouth, entirely free from pain or any untoward circumstances. (Will not give it in operations upon the nose, mouth, or throat, at present—it is not safe.) From that day to the present time have used it—as all therapeutic agents are used by myself, with prudence, paying but little attention to the host of so-called contraindications, except in the operations parenthesized—in a large number of capital, and a host of minor operations in surgery, also in general practice; in at least one thousand and four hundred, out of two thousand and six hundred cases of obstetrics, without a failure in a single case. Only in four cases were there any symptoms to cause alarm on the part of those present, and but two that caused solicitude to your contributor. There is no agent in the whole materia medica with which your contributor has had such uniform success as that of chloroform, having at no time in thirty-two years failed to obtain all that was anticipated when it was given. No mortality (not a single case), where chloroform could be charged with any agency in causing a fatal result. There is no other remedy (not even quinine, and I have but few charges against it), which has been given to the same extent, that has given such entire satisfaction as the one in question. And now, at this late day, to presume to summarily dismiss a remedy which has passed through such an ordeal, and that can muster an array of friends and vouchers who, in point of character, skill, and numbers, would strike consternation to the enemies of chloroform, the proposition as made by your contributor is, to say the least, summary and premature. Give chloroform and its friends a hearing; raise a committee or commission of investigation. The friends of chloroform do not fear a fair investigation.

In the future there may be discovered (I trust there will be) a safer and more pleasant anæsthetic than chloroform; but that it has been done up to the present time is doubted by a very large and respectable number of the profession throughout the civilized world.

Did time and space permit, much might be urged in this article as to the mode of administering chloroform, as compared with other remedies of the same class. Being more active in its action, it should be given slower, is all that will be said at present.

As an apology to your readers, will say that your contributor is by no means as young as he has been, and is at present almost blind; but was determined to come to the rescue of chloroform; not, however, that he had any fears that it would be dismissed from the Materia Medica.

Original Communications.

TRACHEOTOMY IN CROUP:

WITH REMARKS ON

THE PATHOLOGY, DIAGNOSIS, PROGNOSIS AND TREATMENT OF THE DISEASE, AND THE CAUSES OF DEATH IN FATAL CASES; WITH A REPORT OF THIRTY-FIVE OPERATIONS.

By JOHN H. RIPLEY, M.D.,

SURGEON TO CHARITY HOSPITAL; PHYSICIAN TO ST. FRANCIS'S HOSPITAL, NEW YORK CITY.

PART II.

CASE XIV.—Isabella McG——, a strong and previously healthy girl, six years old, returned from school Dec. 21, 1874, complaining of a severe chill, which she attributed to sitting by an open window during the afternoon. In the evening she had high fever, which continued through the next day (Dec. 22d).

I saw her in the evening about five o'clock. She was able to be about the room, but preferred to lie on the sofa most of the time. Her countenance was flushed, neck swollen, and a profuse, offensive, purulent discharge was issuing from the anterior nares, which, the mother said, began the previous afternoon. On examination, I found the fauces and tonsils congested and swollen, but no membrane was seen on these parts or in the anterior nares. Temperature, 103°; pulse, 162; respiration, 40. A solution of chlorate of potassa and tincture of iron was ordered.

Dec. 23d. General appearance better. She arose at her usual hour and has remained up. The tonsils are still large and red, and on the internal face of either is a large patch of loosely attached membrane. In fact, that on the left side hangs only by a border, and is easily removed with dressing-forceps. Pulse, 152; temperature, 100.5°; respiration, 22.

24th, 10 A.M.—The swelling of the neck has greatly increased since yesterday, especially on the right side, and the child sits in a low chair with the head thrown back, mouth open, breathing laboriously and showing little disposition to talk or notice objects about her, although she is not cyanotic nor drowsy. The nasal mucous membrane is so swollen as to nearly close the passages, and the ichorous discharges therefrom have produced erythema and tumefaction of the central portion of the upper lip. The isthmus of the fauces is nearly obliterated from infiltration of the soft parts bounding it, and both the uvula and tonsils are encased in thick, dirty grayish membrane. Pulse, 140; temperature, 100¼°; respiration, 22. 7 P.M.—Child has been drowsy all the afternoon, and great difficulty has been found in administering food and medicine. She is now lying on the sofa asleep, breathing noisily through the widely opened mouth, from which also the saliva is constantly drivelling. I syringed out the nasal passages with a solution of salt and water, but it did not afford much relief to the respiration, and some bleeding followed from the left nostril. The patient was quite exhausted after the operation and immediately fell asleep.

25th.—Patient is up again and looks quite bright. Her mother says she began to improve about midnight. Her pulse, however, is very rapid—150—and she has vomited her food and medicine several times since my last visit. She has also a slight cough of a perceptibly metallic quality. 4 P.M.—Laryngeal obstruction is now manifest. The respiration is stridulous, and there is recession of the epigastrium with each inspiration. There is yet no visible cyanosis, but the girl is very drowsy. Pulse, 120; respiration, 18. Tracheotomy was proposed and consented to by the parents. Returning an hour later and finding the breathing better and the child brighter, the operation was postponed. At 10 o'clock in the evening the croup symptoms had become so grave that it was decided to wait no longer. With the assistance of Dr. A. C. Graham and the late Dr. J. D. Rogers, tracheotomy was performed. The great tumefaction of the neck, the toxæmic and asthenic condition of the patient, combined to make the operation one of great difficulty and danger. Several times during its progress respiration became suspended, and we were compelled to stop proceedings and devote ourselves to restoring it. Finally, after the tube was in place, this movement had to be excited for several minutes by irritating the mucous membrane of the trachea with a feather before it became re-established. We left her breathing regularly and quietly.

26th, 10 A.M.—Swelling of the neck has increased and now involves the face, and the child is very lethargic. Several large pieces of loosened membrane were removed from the soft palate.

Beef-tea and champagne substituted for brandy and milk, as the latter are not retained by the stomach. Pulse, 144; respiration, 26; temperature, 101.°

27th, 10 A.M.—Parents report that last night she rallied, was very bright, took nourishment well and retained it, and subsequently passed a comfortable night. During the early part of this morning she seemed to be still better, and was playing with her father, sitting up in her crib. About an hour ago her mother noticed a marked change: her lips were blue, her extremities cold, and she was very restless. These symptoms were present when I saw her, and, in addition, the radial pulse could not be felt. I gave an enema of half an ounce each of brandy and strong green tea. The pulse rallied again for about half an hour, then disappeared, and she died quietly at 1 P.M. A brother and sister, the one younger and the other older than she, were attacked with a mild form of naso-pharyngeal diphtheria about the time of her death, and both recovered.

CASE XV.—French girl, three years and four months old, had been sick five days with naso-pharyngeal diphtheria, when I first saw her with Dr. Milne, the attending physician, April 19, 1878. Croup had set in on the 17th, and was now in an advanced stage. There was loud stridor, frequent suffocative attacks, cold extremities, livid face, and commencing coma. The swelling of the neck was slight; membrane in the anterior nares and on both tonsils. Respiration, 42; pulse, 160; temperature, 100.5°. A full dose of brandy having been given, tracheotomy was at once done, under chloroform, Drs. Milne and Daniel Lewis assisting. Just as we reached the trachea, the respirations suddenly became shallow and then ceased. An opening was at once made and the tube introduced, when voluntary breathing immediately began, and continued without further accident.

April 20th, morning.—Child has an anxious countenance, is very irritable, and the discharge of purulent matter from the tube is profuse. Pulse, 100; respiration, 40; temperature, 101¼°. Evening.—No marked change.

21st, morning.—Pulse, 138; respiration, 38; temperature, 101°. Evening.—Pulse, 150; respiration, 44. General appearance worse. The surroundings of this patient are bad. The people are very poor, and the father takes no interest in the child, while the mother has two other small children to care for, the youngest also sick with diphtheria.

22d.—Better. Breathing free, countenance good, and a disposition to eat. Pulse, 124; respiration, 38; temperature 101⅛°. Tube was changed for a clean one of the same size. While the change was being made the permeability of the larynx was tested by placing the finger over the external wound. The child immediately got blue in the face and struggled for breath, while little, if any, air was inhaled.

23d.—The patient is still improving. The cough and expectoration are quite moderate, but there has been some free hemorrhage from the trachea since yesterday, although not sufficient to demand treatment. Temperature, 99.4°; pulse, 130; respiration, 38.

25th.—Convalescent. Temperature, 98.5°; respiration, 32; pulse, 124.

29th.—Child playing about the room. An attempt was made to permanently remove the canula, but there was still so much stenosis that it was considered safer to wait. A younger sister has died of diphtheria since my last visit, and an older sister is still sick of the same disease, but not dangerously.

May 30th.—The tube was left out on May 2d, and the wound treated with a little balsam and oakum. Recovery complete, and no secondary paralyses.

Case XVI.—Dr. F. B. Strickland sent for me November 22, 1876, to operate for croup on a little boy three years and nine months old, who had been sick a week. The symptoms, until two days previous, had been those of an ordinary naso-bronchial catarrh. On the evening of the 20th there was a little hoarseness, but the next morning it had mostly disappeared, and the child played about the house as usual. In the evening again it became worse, obstructive laryngeal stenosis developed during the night, and steadily progressed until I saw him. When first seen by me he was lying with head thrown back and mouth wide open, breathing stridulously and with great difficulty. The characteristic supraclavicular and epigastric retractions took place during inspiration. Pulse, 130; temperature, 100°. The internal surface of either tonsil was covered with a grayish-white membrane. No swelling of neck. The trachea was opened at once, Drs. Strickland and Hawes assisting. Nothing noteworthy occurred during the operation. No membrane was seen in the trachea. The relief from dyspnœa was complete.

23d, 3 P.M.—The boy has had a quiet night and a comfortable day, but does not take nourishment well. The membrane on the tonsils is partially detached, and there is no new deposit. There is a free muco-purulent discharge from the nose, but we are unable to see any membrane in the passages.

24th, 11 A.M.—General appearance good. Tongue moist and natural, and less membrane on the tonsils. The neck in the region of the wound is red and somewhat swollen, and the discharge from the tube is profuse. Pulse, 138; respiration, 28; temperature, 100°. Urine examined with negative results.

25th, 11 A.M.—The boy is playing with his toys, but the increased infiltration of the neck, gaping wound and "sawing respiration" do not look encouraging. Membrane has almost entirely left the tonsils, and the tongue is moist and clean. Several large pieces of membrane have been coughed up since yesterday. Pulse, 136; respiration, 26; temperature, 100.°

26th, 11 A.M.—The neck is enormously swollen, the wound of a dark red color, except certain portions which are covered with a thick membrane. The respiration is sawing, the face cyanotic, and there is a constant harassing cough which is evidently aggravated by a loosened piece of membrane either far down in the trachea or in one of the larger bronchi. The lungs are clear. Attempts were made with forceps, with probang, and by pouring lime-water into the trachea, to relieve the dyspnœa and dislodge this membrane, which flapped to and fro with each respiration; but we did not succeed, and only exhausted the child. Finally, the tube was left out altogether, and the parents instructed to see that the boy did not get his neck twisted and thereby produce asphyxia by closure of the wound. Some slight amelioration of symptoms temporarily followed, but death took place about midnight, the temperature rising, meantime, to 103°. A little brother was taken about the time of his death with croup symptoms, but recovered. The doctor attributed the favorable termination to frequent spraying of the parts with a twenty-grain solution of acetic acid. A solution of chlorate of potassa and tincture of iron was given internally to the other child, and no local treatment, except a moist sponge kept over the opening.

Case XVII.—Sept. 7, 1877, I saw, for the first time, M., a boy four years old, who had been taken sick in the country three days before, while temporarily residing with a family where several children were sick with sore throat. His symptoms were at first attributed to a cold, but the day before I saw him he developed a croupy cough, which so alarmed the father that he at once started for the city with him, arriving late the same evening. During that night the symptoms progressed, and he had several severe attacks of dyspnœa. In the morning he had a severe suffocative attack, and I was sent for. When I reached the house the attack had subsided, but the symptoms were still urgent. The voice was husky, the lips cyanotic, and the veins of the neck turgid. Each stridulous inspiration was accompanied by marked supraclavicular and epigastric retraction. The boy was drowsy. Pulmonary percussion was generally tympanitic. The glands of the neck were of normal size and the fauces of natural appearance, except a small patch of membrane on the left tonsil. Temperature, 101⅘°; pulse, 92.

Tracheotomy having been consented to by the father, Dr. Hawes administered chloroform without delay. The operation was especially easy, and the hemorrhage trifling; vomiting occurred soon after the tube was in place—probably from the effect of an emetic of squills and ipecac, which had been given just before my seeing the child—and respiration ceased. After irritating the trachea through the canula with a feather, the breathing started again and all went on well. The breathing was perfectly free and noiseless, and auscultation of the chest, a few hours afterward, showed that air entered the lungs freely at all points. The following morning I left the city and did not see the child again until the 14th. Dr. Hawes, with whom I left the case during my absence, removed the tube on the 12th, although there was still a good deal of stenosis of the larynx; but the wound of the soft parts leading down to the tracheal opening was gaping and covered with membrane, and he thought that before this would close the larynx would have become sufficiently patent. The temperature had remained at about

100° during the week of my absence, and the respirations nearly normal. The bad temper of the boy had prevented the doctor from getting him to take any medicine; in fact, he was with difficulty induced to take nourishment. On my return I found his general condition good, but the wound was still unhealthy, sloughy, and covered with a thick, dirty yellow membrane, and the odor from the parts was very offensive. This membrane—portions of which I showed to Prof. Delafield and Dr. S. Whitall—contained little *lacunæ*, apparently formed by the breaking down of its structure, in which were myriads of both the spherical and rod-shaped bacteria, the latter form most numerous.

19th.—The wound to-day, for the first, presents a healthy appearance. Since my last note the membrane has been peeled off daily, but as often reformed; now, however, there are only a few small patches, and the red, swollen appearance has given place to healthy, rose-colored granulations.

21st.—The child is rapidly improving, and has a good appetite. Respiration is carried on entirely through the larynx, and the voice is clear.

23d.—Only a small granulating surface now exists, which is on a level with the surrounding healthy integument.

Oct. 13th.—The patient was discharged two weeks ago, having only a little general bronchitis, for which cod-liver oil was ordered. If any paralysis of the vocal cords occurred in this case, it must have been present during the second and third weeks of the disease, and was the cause of the hoarseness; certainly, none was observed later.

It is remarkable how small a cicatrix remained after so large and protracted a wound, especially as there was considerable loss of tissue.

Case XVIII.—August 18, 1878, I was called to see F. S——, two years and four months old, who had been ten days under the care of Drs. Burton and Spor for naso-pharyngeal diphtheria. There had been a slight degree of hoarseness for a week past, but no laryngeal obstruction until the day before I saw him, when croup developed and had been steadily progressing since. The symptoms now were: flushed face, toneless voice, epigastric depression on inspiration, which act, as well as expiration, was accompanied with stridor; drowsiness, membrane in pharynx and nose, etc., a sanious discharge from both nostrils, absence of respiratory sounds on auscultation. There was no infiltration of the tissues of the neck. Tracheotomy. Drs. Burton, Spor, Milne, and Crenshaw present and assisting. No complication or accident during the operation. No membrane seen in the trachea. Complete relief. Air enters the lungs freely. Seven hours later, temperature, 102¾°; respiration, 40; pulse, 150. There was ordered bromine, gr. j., every two hours, alternating with milk-punch.

19th, 8 A.M.—Boy has rested well through the night and looks bright. Temperature, 100⅝°; respiration, 36; pulse, 114. 10½ P.M.—Cough has been troublesome during the day, but I find nothing abnormal in the lungs but mucous râles. Several pieces of membrane have been expelled through the tube since my last visit, one of which about a quarter of an inch square is shown to me. He has taken only three doses of the bromine, "because he don't like it."

20th, evening.—Child has been playing with his toys nearly all day. An abrasion of the chin is covered with membrane. Temperature, 101⅘°; pulse, 120; respiration, 32.

21st.—The tube was temporarily removed this morning, when great dyspnœa immediately ensued and the child became cyanosed. The cause of this was evident when I saw within the trachea a large piece of detached membrane being forced into the tracheal slit with each expiration, and again drawn downward, obstructing the entrance of air with the succeeding inspiration. It was easily extracted with my forceps, and measured one and one-half inches in length, was cylindrical and bifurcate at its smaller extremity. Several smaller pieces were also coughed up. Little air could be obtained through the larynx, and no voice-sounds. About mid-day, after playing with his toys for an hour, he suddenly fell back upon his bed, his breathing became slow and gasping, and his face assumed a deathly pallor. I was sent for at once, but before my arrival the danger was past and the boy sleeping. I gave him a full dose of brandy, after which he again slept for four hours and remained listless the remainder of the day. Morning temperature, 100°; respiration, 26; pulse, 126. Evening temperature, 99½°; respiration, 30; pulse, 100. Bromine has been given with tolerable regularity every four hours, and is to be continued at intervals of six hours. No local applications have been made and no steam used.

22d.—Boy bright and symptoms favorable. Temperature, 99½°; pulse, 120; respiration, 30.

23d.—The perviousness of the larynx is not yet sufficient to do away with the tube. The wound of the soft parts has healed throughout by first intention. Temperature, 99½°; respiration, 24; pulse, 120.

From this time on, the progress to recovery was uninterrupted. The canula was permanently removed on the 26th, and the wound of the trachea closed a few days later. No paralysis of any kind followed, so far as I know.

Case XIX.—February 14, 1877, Dr. S. S. Jones asked me to tracheotomize B——, a little girl two and a half years old. The case was all but hopeless at the time of the operation—a complication of scarlet fever, diphtheria, and broncho-pneumonia, with a temperature of 106°. The stenosis was not very grave, except during certain spasmodic attacks, when her efforts to get air were very distressful. It was to relieve these painful symptoms that we consented to do the operation; for, in this instance, the parents insisted on having tracheotomy done. Drs. Whitall and Jones assisted, the former giving ether. This anæsthetic gave us much trouble in its administration, aggravating the laryngeal trouble to such an extent that we could only let her inhale a few whiffs consecutively, and then withdraw it for a few seconds. Fortunately she was quickly anæsthetized and the operation a very simple one. The suffocative attacks were relieved, but the pulse and respiration continued frequent, and she died about six hours after the operation. Another child of the family had uncomplicated naso-pharyngeal diphtheria the same week, but recovered.

Case XX.—W——, æt. three years and one month, complained of stiff neck, Nov. 1, 1878, but the following day was better, and continued apparently well until the 5th, when croupy cough was observed by the father. On the 6th he ate and played as usual, and the hoarseness had disappeared. On the 7th hoarseness was observed in the morning, continued through the forenoon, and became worse in the afternoon, after his noonday nap. At 3 P.M., when I saw him, there was croupy cough, flushed face, and some little dyspnœa. The glands at the angle of the jaw, on both sides, were enlarged, and the neck a little swollen; the tonsils large, red, and covered with membrane. No nasal discharge, nor any membrane to be seen in the passages. Pulse, 140; temperature, 101°; respiration, 28. Hot poultices were ordered to be applied to the neck, and a grain of bromine to be taken internally every two hours. By 9 P.M. the dyspnœa had greatly increased and the child was becoming restless and cyanotic. Tracheotomy was performed half an hour later, Drs. Geo. F. Shrady and Chas. Milne assisting. Owing to our having insufficient light, a medium-sized vein was accidentally cut during the operation, and required ligature. Marked relief followed the introduction of the canula, but the respiration continued rapid.

8th, 12 M.—Temperature, 104°; respiration, 58; pulse, 160. Breathing noisy. Boy lies with closed eyes, and does not like to be disturbed.

9 P.M.—Pulse, 144 (weak); respiration, 56 (and noiseless); steam from a croup-kettle has been constantly inhaled since noon to-day, and has certainly improved the breathing. A peculiarity of this case is that there has been very little secretion from the air-passages, and very little cough. The swelling of the tonsils has diminished and the membrane nearly all disappeared. Infiltration of cervical tissues remains about the same.

9th, morning.—Child has had a good night, and looks somewhat better. Temperature, 101°; pulse, 144; respiration, 38. While changing the canula for a longer one, spasmodic cough was excited, during which a small, tubular piece of membrane, over an inch long, and having a circular opening about midway between its extremities, evidently from one of the bronchi, was expelled through the tracheal opening. In the afternoon the breathing grew more harsh and rapid, and the pulse more frequent and feeble, although the temperature still remained at 101°. A physical examination revealed almost entire absence of respiratory sounds—in fact, there was comparative absence of all sounds, while the percussion note was generally tympanitic.

10th, 10 A.M.—Throughout the night the patient suffered much from dyspnœa, "clutched at his throat" in vain efforts to get relief, and was only prevented from pulling the tube out by continuous watching. The face is now cyanotic, and the usual signs of obstruction to the entrance of air into the lungs are visible on inspection. Temperature, 97½°; pulse, 150; respiration, 42. Steam has been constantly inhaled and bromine regularly given since the 7th. Died at 1.30 P.M.

CASE XXI.—G——, a nursling, eleven months old; rachitic, large fontanel, no teeth, "pigeon breast," bow legs. Had been sick three days, with what at first was thought to be an acute laryngo-bronchial catarrh. On June 24, 1878, she developed a croupy cough. On the morning of the 25th, when I saw her with the attending physician Dr. Geo. Schlereth, there was some huskiness of voice, moderate dyspnœa, and a rectal temperature of 102°; no swelling of the submaxillary or cervical glands, no abnormal appearance of tonsils or fauces, and no membrane visible anywhere. We ordered hot poultices to be applied over the larynx, and agreed to see the patient again in four hours. When we returned grave dyspnœa existed, and the voice was entirely lost. With the assistance of Dr. S., I performed tracheotomy; easily and without accident. A large piece of membrane, a partial cast of the trachea, was coughed up through the tube soon after the operation. The relief was only partial.

26th.—Temperature, 103½°; respiration, 60; dyspnœa as great as before the operation. Lungs generally tympanitic on percussion; mucous and dry râles heard on auscultation; loss of respiratory murmur. Died the same day. Permission was granted to examine the trachea and larynx only. Both were completely lined with a tough, adherent membrane, about one-sixteenth of an inch thick.

The treatment of the case consisted in the internal administration of muriate of ammonia and chlorate of potassa, and the inhalation of steam.

CASE XXII.—Dr. W. A. Hawes saw Hanlon, a boy four years old, who had had a loose, hoarse cough for three days. An examination of the lungs and throat gave negative results. A mixture of chlorate of potassa was ordered. He was sent for early the following morning because the breathing had gotten so much worse through the night. He found urgent laryngeal obstruction. The face was livid, the extremities cold, and each inspiration was accompanied with a loud, whistling sound and deep epigastric and supraclavicular depression. No membrane could be seen. The rectal temperature was 97 ; pulse, 160; respiration, 52. After obtaining the consent of the parents, he came for me to do tracheotomy. The thyroid body was large and the veins turgid, but we did not meet with any accident, and, after the canula was secured in place, the respiration became tranquil, although it remained rapid. The temperature was 99⅘°, and the pulse 120, ten minutes after the operation. The respiratory murmur was of low pitch and vesicular. At 3 P.M., eight hours after the operation, the temperature was 104.5°; pulse, 130; respiration, 60. Bronchial respiration was heard over the whole of the left lung posteriorly, and the percussion note was markedly dull. There were also signs of beginning consolidation of the right lung. The child was delirious. Poultices were applied to the chest and a febrifuge mixture ordered. He continued to get rapidly worse, however, had several convulsions, and died the same evening.

CASE XXIII.—Thomas N——, age three years and five months: having been sick several days with diphtheria, developed croup symptoms Dec. 18, 1878. Grave laryngeal stenosis rapidly supervened, and on the 19th Dr. Burton, the physician in charge, asked me to perform tracheotomy. At the time of the operation membrane was present on both tonsils, and a large strip on the posterior wall of the pharynx. There was no swelling of either the cervical or maxillary glands, and the boy's general condition was good. Temperature, 102⅗ ; respiration, 54; pulse, 172. Drs. Burton and Milne assisted me in the operation, which was uncomplicated. The relief was complete. Five hours later the respiration was 60, and temperature, 104°. Quinine, in five-grain doses, every two hours, was ordered.

20th, 10 A.M.—Passed a bad night. Breathing rapid and noisy; temperature, 103°; child apathetic. 6 P.M.—Temperature, 101.2°; respiration, 40; pulse, 130; respiration is noiseless and secretion from air-passages scanty. Child very thirsty. Quinine to be given every three hours, also milk and brandy. 21st, 10 A.M.—Slept well through the night. General condition good. Breathing easy. Temperature, 103°; respiration, 38; pulse, 118. 10 A.M.—Temperature, 101⅘ ; respiration, 38; pulse, 126. Has taken medicine and nourishment regularly through the day, and looks bright. His cough, however, is frequent and dry, and pouring tepid water into the trachea, with a view of expelling irritating matters from the air-passages, is unsatisfactory. Steam, evolved from a croup-kettle, was now constantly used until death. Mucous râles are heard on auscultation over the lower lobes of the lungs, but the respiration is vesicular and the percussion extra-resonant. The urine has been examined with negative results. The membrane has disappeared from the tonsils and pharynx. 22d, 10 A.M.—There is a marked change for the worse. The neck and submaxillary glands are swollen, the face cyanotic, the breathing rapid and labored, the cough frequent and feeble. Mucous râles are heard over both lungs, while over circumscribed areas on both sides there is comparative absence of all sounds—no bronchial breathing.

Percussion over certain portions is tympanitic, over others dull. Temperature, 102.5°. Several large pieces of membrane were pulled out of the trachea by means of long, curved forceps, but without relieving the patient. Died at 4 P.M. An older brother was just recovering from naso-pharyngeal diphtheria when this patient was taken ill.

CASE XXIV.—M. H——, a delicate girl, three years and eleven months old, who had suffered much from malaria for two years, was seized with a chill on the afternoon of November 28, 1878. This was soon followed by high fever (104°), lasting several hours, which terminated in profuse perspiration. A full dose of quinine (10 gr.) was now given, and the following morning (29th) another dose of five grains. In the afternoon she was drowsy and had some elevation of temperature, but no distinct paroxysm. During the ensuing night she took thirty grains of quinine and remained well the next day.

Dec. 1st.—She had slight fever in the afternoon. 2d.—In the morning she complained of sore throat, but on examination no evidence of local trouble was noticed. In the afternoon, however, while the father was giving her a pill, she became nauseated and had slight retching, during which the tonsils were fully exposed, and a patch of membrane was seen on the posterior surface of each. These parts were then thoroughly cauterized with nitrate of silver, and a grain of bromine ordered to be taken internally every two hours. 3d.—I was called to see her, and found her symptoms generally favorable. A small patch of membrane was present on each tonsil, that on the left being already loosened. The temperature was 101°, and there was no swelling of the neck or glands. The bromine was continued, but not with regularity, on account of its producing serious gastric irritation. 4th.—Symptoms still favorable. 5th.—Tonsils nearly free from membrane, but the uvula completely encased in it. Constitutional disturbance slight. 6th.—Membrane on uvula loosened, and a part easily removed with forceps. Some nasal obstruction, but no discharge, and no membrane to be seen. 7th.—Still appears to be doing well. 8th.—Last night, at midnight, she began to be hoarse and to cough croupy. The atmosphere was at once saturated with lime-steam supplied by means of several kettles filled with a mixture of quicklime and water and kept boiling. This treatment, however, did not appear to stay the progress of the laryngeal complication, for by 7 A.M. the following day the respiration had become continuously difficult, and attacks of suffocation frequent. At the request of the father, tracheotomy was done, Drs. Schoonover, S. S. Jones, and D. W. Perham assisting. The trachea was small, but easily reached, and without hemorrhage. No membrane was found within. The relief was complete. Eight hours after the operation she was doing well. Pulse, 120; respiration, 28; temperature, 100.2°. All medication discontinued except the steam.

10th.—Pulse, 96; temperature, 99°. Considerable muco-purulent discharge from both nasal passages, and membrane seen in the left nostril. A suppository of ten grains of quinine was given, but it was only retained half an hour, when the same quantity was administered by the mouth. 11th.—Temperature, 99°; breathing free. No membrane on the fauces, but it still remains in the left anterior naris.

12th.—Tube changed. Substantially, no air can pass through the larynx. Some bloody mucus coughed up during the day. Temperature, 98½°. 13th.—Small piece of membrane expelled from trachea. Doing well. 14th.—A severe attack of malarial fever began about 4 P.M. yesterday, and continued all night. The respirations became frequent, the pulse rapid, and a harassing cough set in, accompanied with a profuse discharge of pus and blood from the tube. Membrane has reappeared on both tonsils, and is also present in both nares. The patient is very feeble, and great difficulty is met with in administering food and quinine. The latter is not retained well, either by the stomach or rectum. The most successful method is found to be, to give large pills (10 gr.) at long intervals.

15th.—Improvement. No fever. Less secretion from trachea, and mostly mucus. She has had thirty-five grains of quinine since yesterday.

16th, evening.—Tube has been left out all day, but is to be replaced for the night. Membrane disappearing.

18th.—Tube was permanently removed yesterday. Some paralysis of the soft palate, and fluids occasionally fall into the trachea while the patient is drinking.

20th.—Wound in the neck is nearly closed.

From this time her recovery was rapid.

CASE XXV.—M., a boy, four years and eight months old, had a chill Aug. 17, 1879, which was followed by fever and delirium. The next day the constitutional symptoms were slight, and he was engaged in his plays as usual; but in the afternoon his mother saw "a white patch" on the right tonsil. Aug. 19th I was sent for, not because the child did not feel well, but the patch on the tonsil appeared to the mother to be a little larger, and, having lost a child the year previous from croup, she thought she would attend to this in time. I found the general symptoms mild, some nasal catarrh, but no membrane; maxillary glands a little swollen. Membrane was found on both tonsils. No laryngeal symptoms. In the evening hoarseness and a croupy cough developed. Large flaxseed-meal poultices, as hot as could be borne, were ordered to be applied over the larynx.

20th, 9½ A.M.—Pulse, 126; temperature, 100.8°. Cough croupy; voice husky. No apparent laryngeal obstruction. A three-grain quinine pill to be given every three hours.

21st, 10 A.M.—Better. Temperature, 100.2°; pulse, 120. Voice clear, but cough still croupy. The membrane on the right tonsil has increased, that on the left has disappeared. No discharge from the nose. Appetite poor.

22d, 2 A.M.—I was sent for because the child had been suffering from attacks of dyspnœa during the previous two hours. I found him sleeping, the respirations being accompanied with a rattling sound as of mucus in the larynx. On awakening him the breathing became noiseless, but the cough was metallic and the voice-sounds quite muffled. There was slight depression on inspiration in the suprasternal and epigastric regions. Temperature, 101.2°. The pulse was hard and wiry. There was also some catarrhal dysentery, which I attributed to the effect of a solution of chlorate of potassa and iron, which he had been taking in regular and large doses since the inception of the sickness. This I directed to be discontinued, and ordered an emetic of sulphate of copper. 10 A.M.—Pulse, 122; temperature, 100.9°; respiration, 18. The copper produced free and repeated emesis, but no relief, the obstruction remaining about the same. A well-defined milk-white membrane now lines both anterior nares; there is a small white formation on the pharynx, while that on the right tonsil has increased in size. 3 P.M.—Since my last visit the boy has had two very severe attacks of asphyxia, the face getting livid, and the patient "clutching at his stomach." The dyspnœa is now continuous and the countenance is flushed and anxious. Pulse, 140; respiration, 20; temperature, 101.8°.

As the symptoms became more and more urgent, tracheotomy was performed at 4.30 P.M., Drs. Robt. Milbank, Milne, and Spor assisting. A small vein was nicked during the operation, from which two drachms of blood, perhaps, were lost. A small piece of membrane was seen in the trachea after opening it, but it was sucked back into the air-passage, before it could be caught, and did not again appear. After the operation the breathing was free and noiseless. Pulse, 140; respiration, 26; temperature, 101.9°. 9 P.M.—Child looks well and takes food freely. A croup-kettle has been erected by the side of his crib, and is kept constantly boiling. Quinine, in two-grain doses, every two hours, is the only drug given.

23d, 10 A.M.—Pulse, 126; respiration, 26; temperature, 102.9°. Patient was restless and sleepless through the night, and was also very thirsty. Had frequent desire to go to stool, but has passed only small quantities of urine and fæces. Chloral and paregoric were ordered for the sleeplessness, which was thought to be due to uræmia.

9.30 P.M.—Pulse, 120; respiration, 32; temperature, 103°. The child is restless and the breathing a little noisy, but not labored. There is a moderate amount of secretion from the air-passages through the tube. A careful physical examination of the lungs discovers no lesion of their substance.

24th, 10 A.M.—Pulse, 120; respiration, 22; temperature, 103°. Sleeplessness was a prominent symptom through the night, although he took several doses of chloral and paregoric. He has frequent desire to go to stool and also to urinate, but the passages from the bowels are small, and consist mostly of partially digested food, while the urine is scanty and albuminous. His general appearance is good and he takes food well. The membrane neither increases nor diminishes.

10.30 P.M.—Pulse, 132; respiration, 26; temperature, 105.5°. Has passed no urine since morning, and there is none in the bladder. The countenance is of a leaden hue, the intellect clouded and the patient very restless. A bath (temperature, 70°) reduced the temperature one degree and improved his appearance for a little while, but he soon relapsed. Unstimulating diuretics were given and counter-irritants and hot poultices applied over the kidneys, but the suppression continued until death, which occurred at 4 o'clock the following morning.

(To be continued).

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Sea-water is to be furnished the inhabitants of London by the Great Eastern Railway Co. It is to be brought in in cans, and sold at the rate of sixpence for three gallons.

HALLUX VALGUS,

With a Report of Two Successful Cases.

By ALBERT N. BLODGETT, M.D.,

BOSTON, MASS.

A great deal of suffering among all classes of people is caused by the continuous and unvarying irritation and pain produced by comparatively trifling causes, which is borne without complaint, either because it seems too insignificant to be considered a disease and to be treated as such, or because there is comparatively little prospect of permanent relief from any treatment which can be employed in the case. No part of the body is more frequently the seat of these affections than the feet and the lower part of the leg, and probably no class of diseases is more rarely brought to the notice of the surgeon for treatment. The excessive degrees of these diseases are sometimes so serious in their character that the patient is brought into a frame of mind to endure any operative interference rather than suffer a continual martyrdom with no prospect of relief. It is one of the diseases of this nature which forms the subject of this paper.

The complaint to which I ask attention consists in the anatomical element of extreme abduction of the great toe, which, instead of forming a continuation of the line of the foot, is turned outward, is rotated upon its axis to a greater or less degree, and, in very marked cases, is found lying either *under* the other toes, or compressed into an irregular, deformed member, and crowded with the other toes, forming a conical projection from the line of the metatarso-phalangeal articulation. The other toes are adducted, that is, are inclined toward the middle line of the body, and therefore move in an opposite direction from the great toe. All the toes are therefore brought closely together and crowded one upon another, are altered in shape, and sometimes so constrained in their cramped position that they become anchylosed. The great toe shows a decided tendency to lie *under* the remaining toes, being found in the depression beneath the first phalanx, with the other toes closely folded down over it and turned downward, so that their points and the toe-nails rest upon the bottom of the shoe.

The degree of deformity which is produced by this disease is much greater than would be expected, and the disability which it occasions, both from its mechanical hinderance to locomotion, and from the intense pain with which it is often attended, is surprisingly great.

In connection with the distortion and dislocation of the great toe, there is generally much swelling and protrusion of the tissues about the head of the capitulum metatarsi, which is often the seat of intense suffering from pressure upon the prominent joint, which tends to aggravate the disease, and sometimes induces acute inflammation of the joint itself.

Prof. Hamilton considers the condition of the articulation to be that of subluxation, in which the first phalanx, instead of being simply dislocated outward, has partially rotated, so that its proximal end rests upon the outer surface of the capitulum. He also observes that the articulating surface is prolonged outward to a greater or less extent, to form a joint in the new position of the phalanx, and that the synovial cavity becomes obliterated at its internal border, both of which facts I was able to verify in the case I shall first report.

Here the articulating surface was displaced outward and downward, and was limited to an area of about six mm.

In regard to the causation of the disease in question, there can be no doubt that by far the larger number of cases are produced in a purely mechanical way, by the wearing of ill-fitting shoes. This effect may result from two causes: from shoes which are too narrow, and also from those which are too short. Of these two elements of causation in this particular disease, it would seem that pressure upon the ends of the toes, principally, of course, upon that of the great toe, would be the most frequent cause of the deformity in question. The great toe would be abducted to a powerful degree, while the other toes would be adducted, though to a much smaller degree. The continued action of a short shoe would serve to increase the displacement, and at length would crowd the great toe beneath the other toes and fold them down upon it, so that the ends of the smaller toes might rest upon the sole of the shoe. This is the condition called "hammer-toes," and is almost always present, to some extent, in cases of abduction of the great toe. Of course, the fashion of wearing high heels, now unfortunately in vogue among the ladies, has a continual tendency to produce or to perpetuate this disease, from the tendency of the foot to slide toward the toe of the shoe; and as if to furnish no chance of possible escape from trouble, many ladies' shoes are made with a so-called "box-toe," which does not yield to the foot, but compresses the toes as in a vise, so that some degree of deformity is nearly always induced by their continuous use.

Another cause which sometimes tends to produce abduction of the toe is any affection of the muscles which would shorten them, or in any way interfere with their functional integrity, thereby rendering them unfitted for their normal office. In some such conditions, abduction is the inevitable and necessary result, and in all there is great probability of its occurrence, as the consequence of an interference with the motor apparatus of a small and distant member, which is exposed to a continual tendency in the direction of the displacement. Of course, the primary disease of the muscles may be due to many causes which may be omitted here, since it is with the mechanical effects that we are now dealing. A third and frequent cause of the disease, is some lesion located in the joint itself, which causes a change in the shape of the capitulum, and often in the head of the phalanx as well. The articulating surface becomes displaced, so as to present no longer upon the end of the metatarsal bone, but rather upon its outer and inferior aspect, corresponding to which, the toe is swung around as on a pivot, and comes to lie in a direction nearly transverse to the line of the foot.

This condition may be caused by a periostitis, due to pressure of the boot, or to an injury to this region by an accident, and in either case forms a bursa, the so-called *bunion*, in which there is always swelling and pain in the tissues about the joint, and often a thickening of the bone in the vicinity, sometimes even an ostitis. Chronic arthritis is also a frequent cause of deformity in this joint, from the distortion of the articulating surfaces and thickening of the capsular envelopes which so often accompanies it. When the diseased condition is once established, the motions of the feet in walking, and the weight of the body, tend to perpetuate and increase the deformity. The muscles, when the toe is out of its normal line with the foot, draw upon the toe at an angle, and every contraction of the muscle tends to make this angle greater, thus, of course, increasing the distortion.

The distress occasioned by so painful a disease in a part continually exposed to pressure and weight, and the disability produced by the distortion of a part of the foot so important in locomotion, as well as the unsightly deformity which is produced by the displacement of the toes, all render any measure for the relief of this condition a boon to be eagerly sought for.

Various methods of treatment have been tried with varying degrees of success, but most of these have been discarded as impracticable or useless. Rest in bed will sometimes relieve the inflammation about the head of the bone, but will do nothing toward relieving the deformity, and the first attempt at wearing a shoe provokes the whole trouble anew.

Tenotomy is often resorted to as a means of reducing the deformity, but the conditions of the capitulum and the phalanx are often such as to preclude any result from this means, and at best its effect is only imperfect and transitory.

Recourse is often had to amputation, which certainly relieves the abduction of the toe, but is subject to grave objections from the greater deformity inflicted upon the foot, the unprotected position of the remaining toes, and the disturbance to the equilibrium of the body. The diseased head of the metatarsal bone would necessarily be removed, an osseous structure thus be opened, and a risk of greater or less degree to the life of the patient would thus be incurred.

A few years ago, Prof. Hueter, in his "Clinical Treatise on Diseases of the Joints," discussed the disease of which we have been speaking, and stated that the head of the metatarsal bone had been excised for caries with such success as to recommend the operation, and he advises it also in extreme cases of abduction of the toe from other causes, to which condition he gives the name of "*hallux valgus*." The operation, as Hueter performed it, consisted in an incision upon the inner surface of the toe in the direction of its axis, which is carried to some distance on either side of the joint. The capsule is opened, the ligaments are cut, and a subperiosteal dissection of the head of the metatarsal bone is made, the capitulum is removed by bone-forceps or a saw, the toe is brought into a line with the foot, and the wound is left to heal by granulation (Hueter, p. 341 et seq.).

So far as I know, attention was first called to this method of treatment in America, by a paper, describing the operation and accompanied by a report of eleven cases, which was read before the Buffalo meeting of the American Medical Association, by Prof. Frank H. Hamilton, of New York. The cases, with two exceptions, were simply those of deformity either from mechanical causes or from rheumatic or other diseases. Of these eleven cases, six were operated upon by Prof. Hamilton, and all resulted in cure, with the relief of deformity and restoration of the functions of the foot. Five cases were reported from other surgeons with a flattering result in four cases, and one death. The fatal case was that of a gentleman seventy-five years old, who had had extensive disease of the joint with caries and suppuration for three years. Esmarch's bandage was applied and the resection was made with a chain-saw. The foot was enveloped in a warm-water compress. Gangrene of the toe, foot, and leg ensued, and the patient died on the eleventh day. The surgeon who operated in this case ascribes the fatal result to the use of the Esmarch bandage, which is thought to have delayed or even suspended the proper nutrition of the part for a time sufficient to destroy the vitality of the tissues, thus inducing gangrene. That this disastrous result sometimes follows the use of the Esmarch bandage in debilitated subjects, there can be no doubt, and it may easily have been the cause of the fatal result in this case. Prof. Hamilton takes great care to secure the most favorable conditions for the healing of the wound by applying no ligatures or sutures after removing the head of the bone, but by simply immersing the foot in a bath of hot water, where it is kept continuously for a period of from five to seven days, when he says "fomentations may be substituted, or the foot may be taken from the bath at night and wrapped in wet lint covered with oil-silk." This treatment could be more easily carried out in a hospital than in private practice, where the appliances for a continuous bath of a certain temperature are not always easily obtained. Prof. Hamilton adds that "nearly but not quite the same immunity to inflammation and other accidents may be obtained by continuous warm-water fomentations, and without the use of the bath at any period." In any case he advises the use of fomentations for two weeks, when they may be replaced by other suitable dressings. The incision was varied in direction by Prof. Hamilton, so as to form a flap 4½ by 2 cm., thus opening the joint more easily and completely than was the case with the straight incision. The operation was thus rendered easier, and the result was equally favorable.

The cases which I present were of the right and left foot respectively of the same person. The patient, a middle-aged lady, had long been confined to her room, and often to her bed, on account of the pain and disability occasioned by the inflamed state and distorted condition of the heads of the first metatarsal bones. The history was that of a chronic rheumatic arthritis, no doubt aided materially by wearing improperly shaped shoes, though, as is usually the case, the patient denies that the shoes were ever at fault. She was much emaciated from long confinement and suffering, appetite poor, the strength greatly diminished, weight between eighty and ninety pounds. There was a great degree of abduction of both great toes, so that they lay under the bodies of the other toes.

As before stated, there was great pain and almost entire inability to walk; the distal end of the first metatarsal bone was very prominent and knobby, and the articulation between it and the first phalanx was removed from the end of the bone to a point on its outer side. The tissues were stretched over the head of the metatarsal bone; they were red, abraded, and sore. Patient could not wear a shoe, she could scarcely get about the house, and was generally miserable.

Feb. 26th.—Right foot was operated upon by an incision extending 2.5 cm. along the axis of the first metatarsal bone, and connecting with another incision transverse to the course of the bone, thus forming a right-angled flap. This was turned back and the head of the bone exposed. The joint was opened and the head of the bone freed from its attachments to such a degree as to allow a thin steel watchspring saw to be passed behind, when the bone was quickly sawed off at a point about 2 cm. from the distal extremity. There was but little bleeding. The wound was washed in carbolized water, and three silk sutures were applied by which the flap was retained in place. A light carbolized compress and bandage were applied. No ligatures were necessary.

Feb. 28th.—Doing well. No suppuration. All sutures removed to-day. Patient is kept quiet, suffers but little pain, requires no opiate. Appetite good. March 8th.—Eleven days after the operation, wound fully closed. Not much tenderness and no pain. Patient is beginning to walk upon the foot.

March 20th.—Left foot operated upon in the same manner as the right. Wound closed with four sutures. No ligatures were required. The bone was removed a little farther back than in the operation upon the right foot and the wound dressed with carbolized compress and bandage. March 23d.—All sutures removed. No discharge or signs of retained fluid. Pain very slight. No swelling. April 3d.—Fourteen days—wound fully healed. Patient is walking without any pain or discomfort. There are no signs of irritation in the cavity of the joint, and motion of the toe is not accompanied by pain. The patient is much relieved. Can wear a close-fitting boot, which she has not been able to put on for seven years. Goes up and down stairs without difficulty. The appearance of the feet is much improved. The great toe of each foot is brought into proper line and the other toes are resuming their normal shape and position.

In regard to the method of treatment advanced by Prof. Hamilton, it may be proper to notice a few points. He uses no ligatures or sutures, does not make any effort to approximate the edges of the wound, and is quite urgent in his advice that the foot be placed in a bath for some time after the operation, for the purpose of preventing sloughing, etc. He strongly insists that no bandage be used, as being likely to induce gangrene, and his cases are invariably left without trying to unite the lips of the incision, for the reason that such a wound should be left to fill up by granulation. These objections are all, doubtless, well grounded, and in some instances fully applicable, but they would seem to be more or less dependent upon the age and general condition of the individual patient and the condition of his surroundings. They were none of them observed in my cases, and the result was certainly all that could be desired. Union was in both cases entirely by first intention; there was no effusion into the cavity left after removal of the head of the metatarsal bone, and the recovery was very rapid and complete. The only treatment observed other than that mentioned above was rest in bed and a moderate diet.

I do not know why Prof. Hamilton considers it necessary to observe so many details in the performance of this operation and in the subsequent treatment, or rather the subsequent lack of treatment, of the patient. The operation is certainly not more difficult to execute than many other operations upon the extremities, and if the two cases in which I have had opportunity to study it form any indication, the recovery is not subject to more than the average amount of risk and peril. The attempt to follow the explicit directions given by Prof. Hamilton would rob the operation of what, to me, is one of its greatest advantages—its simplicity and consequent ease. To provide the means for constant immersion of an extremity in a bath of a certain temperature, with the observance of other unavoidable conditions, would render the extensive application of this operation outside of large hospitals impossible, and by just so much tend to limit its usefulness; for many, if not most of the sufferers from the disease we are treating, are found in the humbler walks of life. If these inconvenient and costly arrangements can be safely avoided, it certainly is a gain to surgery and to every patient who suffers the operation.

That this may be judiciously advised is proved, I think, by the result of my cases, and I consider that this operation recommends itself in all proper conditions as easy, safe, and satisfactory.

June 16, 1880.—Examination of both feet of this patient to-day shows the great toes in normal line with the foot, not sensitive, with extensive motion, the joints not tender, nor in any way causing her any trouble. The other toes have come into excellent position, and the appearance of the feet is much improved. In fact, both feet are in as good shape and proportion as is found in the majority of so-called healthy feet. Patient is out walking every day, and does a great part of the housework in the family, wearing a close-fitting shoe, and being on her feet several hours each day. Her general health is benefited in almost a similar ratio, and she is loud in her commendation of the operation.

THE ACTION OF THE VISUAL PURPLE IN THE EEL.

By HORATIO R. BIGELOW, M.D.,
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The announcement of Boll of the sensitive purple color of the retina, and its more recent elaboration by Khüne and Ewald, have resulted in many scientific deductions as to the actual part taken by the "purple" in the visual function. The fact that many frogs appear to see perfectly well in "spite of the absence of any store of it in their retinas, and that many animals, which never at any time seem to possess such a store, have nevertheless respectable vision," together with the useful hint thrown out by Dr. Michael Foster, in his excellent translation of Khüne, "On the Photochemistry of the Retina and on the Visual Purple," that "it would be very interesting to ascertain the behaviour when their retinas are bleached, of those animals, if there be any which possess no cones, or rather in which all the terminal organs of the retina are covered with purple," led me to institute some experiments founded upon the general plan of Khüne, as to the action of the visual purple in the eel. The investigation was stripped of some measure of embarrassment, as the idea which naturally suggested itself that frogs, with bleached retinas, though not blind as to the amount and intensity of light, might still be unable to distinguish colors, had already been fully discussed by Khüne, who proved satisfactorily that the presence of visual purple in the rods was not essential to the appreciation of differences of color. Schultze has observed that the retina of the eel contains rods, no cones. Khüne writes: "I have found the retina of both fishes (the loach and the eel) purple; in the loach only faintly so, but in the eel more intensely purple-colored than in any other animal, with the exception of the owl, which in this respect slightly exceeds it. When exposed to light the retinas were often very intensely yellow; to this fact may probably be referred Leydig's statements in reference to the loach; there are, however, differences to be noted. I saw, for instance, in an eel which had died in darkness, the purple pass, when exposed to the light, into a deep orange-yellow which did not bleach for two days, and then did not bleach fully, whereas in another specimen the yellow came out very faintly and disappeared after being exposed for an hour to a dull light. As the retina of an eel, being free from cones, contains no pigment-globules, and the rods, being of a considerable length, are uncommonly rich in purple, a certain agreement with the arrangements in the owl's eye is evident." There seems to be an especial significance in the fact that the store of visual purple is largest in those that inhabit dark places, or whose vision is peculiarly well-defined at night. In the badger, the owl, the eel, and the loach, the quantity is in excess. The deduction from my experiments is not absolute, since it is not improbable that a bleaching process, sufficiently long to ensure success, may interfere with vision itself, and in some cases perhaps destroy it. Two eels which had been kept in thick, muddy water in a dark room for twenty-four hours, and who manifested no want of alacrity in finding the pabulum dropped in for them, were exposed on the second day to a brilliant sunlight from nine in the morning until noon, when they were put back into the tank. They sank to the bottom and exhibited no signs of life for some hours. At five o'clock in the afternoon they were squirming aimlessly about, and only absorbed nourishment as they were brought into immediate contact with it. Particles of prepared food, which previously they had taken with avidity, were passed by, unless appreciated by the sense of touch. Twenty-four hours after the bleaching they were as active as they had been before the experiment, and seemed to recognize the food which had tempted them before. This return of vision I thought due to a redevelopment of the purple from some untouched epithelium. The experiment was repeated on the sixth day with a similar result: when taken from the dark tank and put into one filled with clear water, through which the rays of sunlight were allowed to pass, they again seemed to be guided more by a sense of touch than by sight, although the effect was not as great nor as lasting as when exposed directly to the sunlight.

The eye of one eel, which had been kept in a dark, muddy pool, was then extirpated, and the retina exposed to sunlight, when it immediately passed in a faint yellow which persisted for half an hour, but reappeared in four hours after its enclosure in a dark box. It was then re-exposed to the rays of the sun and was thoroughly bleached in three hours. Again it was shut up in the dark, but the purple failed to reappear. The same result on another eye was obtained with the sodium-light, though the time required was much longer, and the bleaching was not as perfect. I then took two other eels from the dark tank, and placed them in such position that isolated absorption colors of different intensity should fall separately into each eye, using Geissler's tubes and the spectroscope, and in this position kept them for half an hour. Upon examining the retinas I found that a dark blue ray had bleached almost entirely, while the green and the red had exerted but little influence. Although prepared for this result by similar experiments of Khüne, it was and still is difficult to understand its significance. For believing, as I do, that the purple is that part of the visual action which intensifies the power of sight in dark places and at night, I had supposed that the dark blue ray would exert but little if any bleaching power, and I can only account for it upon the assumption of a chemical antagonism, and the rapid absorption of these rays by the purple. In order to procure a good monochromatic light, I made use of common salt in the flame of a Bunsen burner for the yellow; and for the red, ordinary light was transmitted through a glass colored with the suboxide of copper; the blue was obtained by transmitting ordinary light through a glass trough with parallel sides containing an ammoniacal solution of the sulphate of copper, as suggested by Ganot. In using the spectrum, it is important to remember the calorific and chemical changes which it may effect. The action of the phosphorogenic rays of Becquerel upon the visual purple are peculiar, and of great interest in connection with the photochemistry of the retina. An eel which had been placed in the dark tank, so that its eyes should be fixed upon some algæ that were clinging to a rock, was taken out and the eye extirpated as speedily as possible. The retina was dampened and placed upon an iodized silver plate, and exposed to blue light for four minutes, when a faintly reproduced impression of the rock and algæ was seen, which became greatly intensified as the yellow or red ray fell upon it. That the visual purple has the power of fixing the image upon which the dioptric apparatus may rest is now a settled fact, and this image remains for a variable length of time.

DEATH FROM RETENTION OF URINE IN A CASE OF PERI-RECTAL ABSCESS.

By CHARLES B. KELSEY, M.D.,

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The following notes of a case in which I was consulted after the death of the patient, and in which I made the *post-mortem* examination, may be of interest as showing a danger which always attends acute disease in the region of the rectum, and the sad results which may follow a disregard of the ordinary precautions of surgery. The history will speak for itself, and comment on my part is unnecessary.

A gentleman, aged thirty-six years, who had previously been in perfect health, was attacked with an abscess in the right ischio-rectal fossa. After a week of suffering it was opened and a large quantity of pus evacuated, and at the time of his death, which occurred suddenly about a week after the incision, it was gradually closing up. From the first of his attack he had complained daily of pain in the region of the bladder. He passed urine very frequently and in small quantities, and only once obtained any relief, which was when his nurse, on her own responsibility, put hot compresses over the abdomen. As a result of this application, he passed a very large quantity of urine, and for a few hours was free from suffering. For the relief of this pain opium was prescribed and freely administered up to the hour of his death. A few hours before the end he expressed himself as feeling very well and hopeful, expected to be about his business again in a few days, and complained only of constant pain over the bladder, and desire to urinate, wondering why he was obliged to pass his water so frequently, and why it only came away in such small quantities. He died, without warning, in a convulsion.

The *post-mortem* examination was made by myself, at the request of the family, who were not quite satfied with the diagnosis of apoplexy which was made by the physician in attendance.

The cerebral sinuses were very full of blood, veins of the dura mater distended with black blood, and the ventricles filled with serum. The bladder reached to the umbilicus, and must have been nearly at the point of rupture. The kidneys were slightly enlarged and gorged with blood, but not otherwise diseased. With these exceptions and that of the abscess which I have mentioned, the viscera were as healthy as I have ever seen them at an autopsy.

A CASE OF MIXED ASTIGMATISM,

Supposed to have been Caused by the Sucking of the Eye by an Infant.

By DAVID WEBSTER, M.D.,

NEW YORK.

On May 20, 1873, Dr. C. R. Agnew was consulted by a lady thirty-six years of age, on account of impairment of vision of her right eye. The commencement of her trouble dated back about eight years, when she first noticed a straight black line running obliquely across the right visual field. This line soon became crooked, and was broken up into numerous transparent specks. These floating, transparent globules eventually mostly disappeared, and the eye, after many months, settled down into a condition in which all objects seemed "distorted" and everything was "double lined." "The gas-flame," she observed, "had a halo with radii about it." She has not now, nor has she ever had, any external appearances of inflammation or irritation.

At the time the trouble was ushered in the lady was weaning her babe, and, curiously enough, fell into the habit of allowing the little one to suck her right eye as a substitute for her nipple. She positively affirmed that almost every night for six months she allowed the child to go to sleep resting on her right arm, and with his mouth applied to her right eye. This gave her no pain, and she indulged the child in it, not thinking it would do her any harm. She now believes that the trouble in her eye was induced by the long continued and often repeated suction exerted upon the eyeball by the mouth of her child. Examination with the ophthalmoscope reveals nothing abnormal except astigmatism. Without a glass the vision is $\frac{8}{100}$, but is raised to $\frac{20}{20}$ with $-\frac{1}{10}$ c. axis 70° $\frown$ $+\frac{1}{42}$ c. axis 160°. The fellow eye has vision $\frac{20}{20}$, and is emmetropic.

Whether the frequently repeated and long continued suction applied to the eye had anything to do with the change in its shape is a difficult problem to solve. For my own part, I am inclined to think that it did. It is certain that the astigmatism was developed during the period in which the eye was habitually subjected to suction. It may be objected that the traction would affect only the loose and yielding eyelids. It seems to me probable, however, that the lips of the child would often make more or less pressure upon the eyeball anterior to its equatorial region. This seems to be borne out by the history of the case, for there seems to have been a slight hemorrhage into the vitreous, probably caused by intermittent pressure upon the globe.

Veratrum Viride as an Antidote to Opium Inebriety.—Dr. J. S. Haldeman claims that as veratrum viride is a direct antidote to acute opium-poisoning, it will also act antagonistically in chronic opium-poisoning. Some cases illustrative of this are referred to.—*Lancet and Clinic.*

Reports of Hospitals.

THE PHILADELPHIA HOSPITALS.

Notes of Practice and Peculiarities of Treatment.

SACCHARINE DIABETES.

In the hygienic treatment of this disease at the University Hospital, Dr. Pepper's first effort is directed toward cutting off the supply of all the starchy elements of food. If the urine becomes less abundant under this exclusive regimen, some hope of ultimate cure is held out. In some very obstinate cases, even after excluding all starchy matter from the diet, the urine still continues to contain a large proportion of sugar.

The best diet for a diabetic patient, in Dr. Pepper's opinion, is, for breakfast, eggs and any kind of meat except oysters, gluten bread and tea, or coffee, with milk and without sugar; for dinner, tomatoes, lettuce, onions, spinach, string-beans, meat, light sour wine, and lemons, or perhaps oranges, but none of the sweet fruits; for supper, about the same diet as for breakfast. None of the starchy foods, no alcohol and no sugar are allowed.

Among drugs opium is regarded as the most valuable; of this an immense amount has been taken daily in several instances without producing any of the symptoms of poisoning. A boy lately under treatment for this disease took seven grains of opium per diem. In his case the only bad effect was the production of obstinate constipation. Cases have occurred where even this was unnoticed. The opium, either directly, by diminishing the amount of the secretions, or, more probably, by its action on the nerve-centres, relieves the excessive thirst and voracious appetite, and reduces the amount of urine and the quantity of sugar in the urine. In one case the amount of urine secreted daily was reduced from twenty-eight pints to eleven pints, and the total amount of sugar in the urine decreased in proportion. Ergot, which has been found to act almost like a specific in simple diuresis, has also been employed in saccharine diabetes with much profit. The dose commonly given is one fluid drachm of the fluid extract four times a day. Where the skin is rough and dry, jaborandi has been shown to be of value by reason of its great powers of diaphoresis. When jaborandi is employed, the opium and ergot are discontinued.

HYPODERMICS OF ERGOTINE FOR FIBROID TUMORS.

The results of the hypodermic injections of ergotine in cases of submucous fibroid tumors of the womb have been very good in Dr. Goodell's wards of the University Hospital. The womb contracts under the influence of the ergot and forces the tumor into the uterine cavity, thus converting it into a polypus. The habit is to inject daily ten minims of a solution containing ninety grains of ergotine to the fluid ounce of distilled water, under the skin of the patient's abdomen.

Three different results have followed this use of ergot in such cases: 1. The fibroid has been simply diminished in size. 2. The fibroid has been converted into a polypus, by being forced into the cavity of the womb, whence it has been removed by forceps; or, 3. Necrosis has followed. This necrosis has been brought about by the diminution in the blood-supply following the contraction of the womb substance; as a result of this, the tumor first atrophies, and then breaks down in the direction of the least resistance.

ENDARTERITIS.

Dr. Bartholow has great confidence in the value of small doses of opium as a cardiac and nervous sedative. His patients in the Jefferson Medical College Hospital, receive five drops of the deodorized tincture of opium every four hours. To arrest the usually accompanying condition of chronic arteritis, the hypophosphites, cod-liver oil, and quinia are employed. One fluid drachm of the lactophosphate of lime and three minims of Fowler's solution are given thrice daily, in addition to the opium. When any improvement is visible in the condition of the patient, quinia is given in energetic doses. It has been shown to have a good effect upon the coats of the arterioles.

MULTIPLE SCLEROSIS.

According to the same authority, the therapeutic indications in these cases are the carbonate and the iodide of potassium. Five grains of each of these salts are ordered three times a day, before meals. From half a fluid drachm all the way to one fluid drachm of the syrup of the iodide of iron is given after meals.

ASTHMA.

Dr. Bartholow has succeeded in affording great relief to sufferers from this distressing complaint by the administration of fifteen grains of the iodide of potassium and twenty grains of the bromide of potassium four times a day. This combination has been found to be particularly useful where there is any spasm of the bronchi.

SCLEROSIS OF THE LIVER.

The watery purgatives—the so-called hydragogue cathartics—are the chief means employed of getting rid of the ascites. Dr. Bartholow orders from one to two drachms of the compound jalap powder every morning. With a view of acting upon the liver, and stopping the sclerosis he orders the one-twentieth of a grain of the chloride of gold and of sodium thrice daily in pill form. Chloride of gold acts on the hepatic cells and retards the hyperplasia of connective tissue.

SCIATICA.

In a case of chronic malaria, with chills and fever, followed by neuralgia, Dr. William Pepper's treatment consists in the use of quinia, iron, arsenic, and belladonna. In many cases, he has found that more relief is afforded by large doses of arsenic than by any other remedy. Occasionally he has injected the arsenic under the skin. When there is distinct local inflammation, he is accustomed to treat the case with large doses of the iodide of potassium and with minute doses of the bichloride of mercury. When he desires to bring about absorption of the inflammatory matters inside the sheath, he has found the best treatment to consist in severe blistering, or in the use of the actual cautery.

The actual cautery, in particular, has been shown to possess great absorbent power, and powerfully relieves over-sensibility of the nerves. Another excellent plan of treatment sometimes pursued consists in the hypodermic injections of morphia and atropia right down into the adjacent muscular structure. For this purpose the habit is to employ from the one-sixth to the one-fourth of a grain of morphia, and from the one-ninetieth to the one-sixtieth of a grain of atropia. As the disease subsides, care is taken that the morphia-habit is broken up. In still other cases, where the localized pain has been intense, the most satisfactory results have been derived from the hypodermic injection of from eight to ten minims of chloroform into the adjacent tissues, great care being had to keep the needle out of the way of the arteries. Though incomparable as a temporary destroyer of pain, the effects of the chloroform are not permanent. Galvanism has been employed with success in some cases. The mode of application is with the positive pole at the seat of pain, and the negative pole along the nerve-trunk. Where the muscles have wasted to any great extent, the faradic current is the one which is generally the best to employ.

CHRONIC DIARRHŒA AND PERITONITIS.

The routine treatment of this condition, in Dr. Da Costa's wards in the Pennsylvania Hospital, has consisted in the use of a strict milk diet, together with from the one-fourth to the one-third of a grain of the nitrate of silver, administered every two hours in pill form. At the same time iodine ointment is applied to the patient's abdomen, twice daily. Lately, however, Dr. Da Costa has adopted a new plan of treatment, which has greatly improved his patients' conditions. This treatment has consisted in the injection of five minims of Magendie's solution of morphia into the abdominal walls every morning and evening. This method of treatment has given great relief to the patients. It was first tried a number of years ago in some very obstinate cases of chronic diarrhœa, with very good results, better results than Dr. Da Costa has ever been able to obtain from the hypodermic injection of morphia into other parts of the body.

CHRONIC HYPERTROPHY OF THE TONSILS.

Dr. Penrose's treatment of these cases is both general and local. He regards the general or constitutional treatment as very important, particularly as such patients are generally cachectic. Unless this general treatment is rigorously carried out, the local treatment is of no avail. The first thing to be done is to remove any bad hygienic surroundings which may exist. He then begins with mercurial purgatives and revulsives. He gives from the one-twelfth to the one-half of a grain of calomel every two hours, in a little sugar, until the child has from three to six movements every day. This calomel treatment is continued every two or three days for several weeks. At the same time, as a stimulant to the system, the child's whole body is thoroughly rubbed with hot whiskey before going to bed. If the patient is decidedly weak, one fluid-drachm of brandy, well diluted, is given internally from three to six times daily. Patients have been kept upon these daily rations of stimulus for weeks at a time. Rubbing the body with hot whiskey has been followed by the most excellent results. The other items of the constitutional treatment consist in the use of from three to six grains of quinia daily, and from five to ten drops of the tincture of the chloride of iron, from three to four times daily, in water. At the same time, the child is fed up well with plenty of good soup, milk, eggs, and extract of malt. The object is to rebuild the whole fabric of the body, at the same time that all the diseased products are being removed in the alvine evacuations.

The local treatment is regarded as very important, but the local treatment is of no avail unless the constitution is regenerated by means of the remedies already indicated.

If the inflammation and hypertrophy are considerable, Dr. Penrose is in the habit of applying a solution of the nitrate of silver (sixty grains to the fluid ounce of distilled water) to the parts, by means of a brush. The application is made carefully and thoroughly. A small brush is used, and care is taken not to catch up too much of the astringent solution on the brush. The effort is made to secure the child's co-operation, and great care is taken that the brush is properly secured to its handle.

Powdered alum has been found to be another very excellent application in these cases. The following formula is ordered:

℞. Pulv. alum........................ ʒ ij.
Sacchar........................ q. s.
M. et in chart. No. xx. div.
Sig.—One powder every two hours.

The child is taught to take a pinch of the powder every now and then, and not to swallow the whole thing at once—this with a view of prolonging the contact of the medicine with the diseased tonsils. When the child is large enough, lozenges of the chlorate of potassium are often very efficient.

Another mild but excellent local application is the tincture of the chloride of iron with glycerine—one fluid ounce of each being applied by brush, once or twice a day. But very few cases resist this combined treatment. The constitutional treatment is kept up until the tonsils have been reduced to their proper size.

If the child is pigeon-breasted, a great deal has been accomplished by careful gymnastic training. Dr. Penrose is very much in the habit of recommending the use of three-wheeled velocipedes for the purpose of developing the chest, or, as a systematic item of treatment, he has the child stand with its back against a wall, tells it to take a full breath, and then, when its lungs are thoroughly expanded, institutes firm pressure against the sternum.

AMENORRHŒA.

In cases of this nature, due to torpid action of the ovaries, Dr. Goodell orders the following prescription:

℞. Ex. aloës.................. ℈ j.
Ferri sulph. exsic.................. ʒ ij.
Assafœt.................. ʒ iv.
M. et in pil. No. C. divide.
Sig.—One pill to be taken after each meal. This number to be gradually increased, first to two and then to three pills after each meal.

If the bowels are at any time over-affected, the patient is to stop and begin again with one pill.

Where the amenorrhœa is due to arrested development, Dr. Goodell has derived the very best results from the constant use of Blot's pill, as recommended by Niemeyer:

℞. Pulv. ferri sulph.,
Potas. carb. puræ................āā ʒ ij.
Mucil. tragacanth................ q. s.
M. et in pil. No. xlviii. div.
Sig.—To be given daily, in increasing doses, until three pills are taken after each meal.

This gives the large quantity of twenty-two and a half grains of the dried sulphate of iron per diem.

If these pills give rise to constipation, Dr. Goodell uses this formula:

℞. Pulv. glycyrrh. rad.,
Pulv. sennæ..................āā ℥ ss.
Sulphur sublim.,
Pulv. feniculi..................āā ʒ ij.
Sacchar. purif.................. ℥ jss.
M. Sig.—One teaspoonful in half a cupful of water at bedtime.

Where the suppression is due to change of habits and loss of health, tonics are employed. When the suppression comes on suddenly, from cold or exposure while in the midst of the menses, and is accompanied by severe lumbar pains, the patient is placed in a mustard hip-bath, a Dover's powder is administered, she is put to bed and hot drinks are given to provoke copious diuresis and diaphoresis.

TUBERCULAR LARYNGITIS.

Dr. William Pepper's general treatment of such cases is the same as that for phthisis. Locally he applies pure nitric acid, or strong solutions of nitrate of silver are brought into contact with the ulcers. Extreme care is had in making these strong applications, and a delicate brush holding the caustic is guided carefully to its destination, by the aid of the laryngoscope. For the œdema astringent solutions, such as the sulphate of zinc, copper, or alum are recommended. Gargles and inhalations are used for the cough.

The following formula has been found to be of particular value:

℞. Tr. benzöici comp............. f. ʒ ij.
Glycerinæ.................... f. ℥ ss.
Aquæ........................ f. ℥ iv.
Sig.—To be used as a gargle.

Inhalations of steam vapor of hops, or conium, are very often found useful as palliatives. In many cases counter-irritation is applied externally to the larynx in the shape of small blisters. To relieve the sense of fulness lozenges or hæmatoxylon, krameria, or tannic acid are prescribed. In desperate cases tracheotomy is performed, and a metal tube worn, thus putting the much-worn larynx to rest.

ADDISON'S DISEASE.

Rest is the chief indication, according to the same authority, with good hygienic influences and wholesome food. In some cases an exclusive milk diet has been found to do great good. The bowels and other excretions are carefully attended to. No long journeys are allowed. The system is sustained upon arsenic, iron, and cod-liver oil. Counter-irritation over the seat of disease has been found useful in early stages, so also with regard to faradization with mild currents or general principles, nitrate of silver and iodide of potassium are administered. The former drug has shown itself to be of great use where there is irritability of the stomach and intestines present. Where the vomiting is violent and otherwise uncontrollable, chlorodyne or temporary enemata are used. Where there is palpitation and dyspnœa, digitalis is given freely.

The following prescription, originally recommended by Greenhow, has been employed very satisfactorily in a number of cases:

℞. Ferri sesquichloridi,
Chloroformi.......... ....āā ♏xv.—xx.
Glycerinæ.................. f. ʒ ij.
M.
Sig.—To be given three times a day in water.

The form of iron which Dr. Pepper has lately employed in this affection is dialyzed iron. He does not place much confidence in phosphorus, which was formerly much used in Addison's disease. Alcohol is given in small quantities and in whatever form is best assimilated by the stomach. Strychnia seems to do good in some cases.

Progress of Medical Science.

Elementary Tubercles and Giant-Cells.—Some time ago, M. Kiener communicated a paper on this subject to the *Société de biologie* of Paris. At a recent meeting of the same society, Malassez commented on this paper, corroborating some points of Kiener and disputing others. The following is a brief résumé of his observations: The simplest tubercles are utterly devoid of giant-cells, being composed solely of lymphoid or embryonal corpuscles. Tubercles with epithelioid bodies and giant-cells are not of this simple kind, and should not, therefore, be regarded as belonging to the elementary form of tuberculosis. True giant-cells represent neither cross-sections of obliterated vessels, nor are they accumulations of degenerated elements. They are cellular bodies of perfect vitality, but as yet incompletely developed, probably corresponding to fragments of the vaso-formative networks of Kiener. These reticula were discovered by Kiener in the tubercles of serous membranes, and are not destined to be transformed into capillary blood-vessels. Arrest of development in these capillary new growths, together with structural alterations in the pre-existing vessels, explains the tendency toward degeneration of tubercular tissues. Such tissues receive less blood on account of the obstructed vascularization, and in addition, the blood-supply may fail of ultimate distribution, owing to the arrested development of the new formed capillaries.—*Gaz. méd. de Paris*, April 10, 1880.

A Case of Spina Bifida.—An interesting case of this rare affection is reported by Dr. J. E. Blake, of this city. The patient, a female, aged eight years, has spina bifida in the lumbar region. At the time of birth the sac was about the size of a pigeon's egg, having an opening leading into the vertebral column, about the size of the nail of the forefinger. The sac is covered by a lipoma of which the bulk of the tumor is composed. A striking feature of the case, and which could be demonstrated until the fontanelle closed up, was the existence of a free communication between the sac and cranium; this was shown by exerting pressure on the sac when a bulging up of the fontanelle occurred. At first there was difficulty in retaining the urine, owing to weakness of the sphincter vesicæ, but this was to a certain extent overcome by efforts of the will. There is an arrest of development of the bones in the vicinity of the ankle. The muscles of the anterior aspect of the leg are paralyzed, and there is a lack of development of them; the circulation of this part is somewhat enfeebled. The posterior muscles of the lower extremities are fully developed, as is the upper portion of the body. With these exceptions the child is in perfect health, but, on account of the paralysis of the legs, is compelled to go about in a wheel-chair. To protect the sac from injuries of any kind, pressure was brought to bear on it by means of elastic webbing applied in such a manner as to cause fulness of the fontanelles.—*Reprint from Am. Journ. of Obstet.*, April, 1880.

* * *

Citrate of Caffein is gaining favor as a diuretic. In several cases of cardiac dropsy in which the remedy was tried by Assistant Surgeon W. H. Heath, at the New York Marine Hospital, the increased flow of urine was very marked and rapid.

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WHETHER VIVISECTION PAYS.

In the July number of *Scribner's Monthly* is an article by Mr. Albert Leffingwell entitled, "Does Vivisection Pay?" The writer takes the ground that it does not pay, at least not very well, and he argues the point with an apparent candor and moderation which must make his article very effective with readers not especially informed upon the subject in question. The great importance—the vital necessity, indeed—of vivisection to the progress of scientific and practical medicine, needs no demonstration to physicians. There are, however, many of the laity who, without knowing much regarding the facts, have yet a good deal of sympathy with the appeals to their humanity made by anti-vivisectionists. For this reason we venture to comment upon some of the points made by Mr. Leffingwell, in the article to which we have referred.

The writer freely admits the necessity of vivisection. He asserts, however, that it should not be performed for the purpose of class demonstration, when the point to be demonstrated involves pain to the animal and is one already well established. He also claims that, to use his own words, "in view of the slight gain to practical medicine resulting from innumerable past experiments of this kind, a painful experiment upon a living vertebrate animal should be performed, by law, solely for purposes of original investigation, and then only under the most rigid surveillance, and preceded by the strictest precautions." These precautions are the obtaining special permission from a State board, the applicant being obliged to state the object of the proposed investigation, the nature and method of the operation, the kind of animal to be experimented on, and the shortest period during which pain will probably be felt. An officer of the State must also be given an opportunity to be present during the experiments. Mr. Leffingwell further insists that those purely physiological experiments should not be permitted, which, though not painful in themselves, lead to mutilation and subsequent suffering in the animal.

These are the main points which are advocated. But, in leading up to them, there are a number of statements made which, if not entirely false, are very misleading.

We are informed, for instance, that the more brutal methods of physiological experiment, so current on the continent of Europe, are those followed in our New York schools; and again, that the results of vivisection upon practical medicine have been really almost nothing. As evidence of the first assertion, a number of experiments, annually performed in the medical colleges of this city, are described. The fact that these experiments are all done under anæsthetics is not brought out at all, and the average reader would gather that our physiological professors are hardened creatures who annually brutalize their pupils by unnecessary demonstrations of well-established laws. These charges, we believe, from all the evidence we can gather, are neither more nor less than silly exaggerations. There is no place in the State or country where more physiological experimentation is done than at the College of Physicians and Surgeons, of New York. In all the class demonstrations annually made at that place, however, there is but one experiment in which there is any exhibition of the infliction of pain. This is one in which the animal is made to utter cries for a short time in order to show the motions of the vocal chords in speech. The idea that there is anything brutalizing in the physiological lecture course will certainly appear novel to the medical student, and is absurd to every one who knows anything about the facts.

Class demonstrations of known physiological laws are almost, without exception, painless. They are of the greatest possible help in impressing facts and in elucidating clearly what is obscure in the human mechanism. The history of the development of physiological teaching at Harvard illustrates this. The introduction of physiological experiment revolutionized the study at that college, and turned a dull routine into enthusiastic application.

In regard to the other kind of experiments—those conducted in the interests of physiological science alone—the impression conveyed by Mr. Leffingwell is equally unfair. Among the many experiments performed during the past few years at the laboratory in Twenty-third Street, there has been only one set that has been attended with pain. This is the series undertaken for the purpose of locating the cerebral functions, especially those of the cortex. Here some pain, though not a great deal, had to be inflicted. But the scientific results attained are more than commensurate with the suffering that was caused. The brute must regularly suffer that man may eat and enjoy himself. Society acknowledges this. He must also suffer occasionally that man may increase his knowledge. But that unnecessary suffering is inflicted, that anæsthetics are not given whenever possible, is untrue.

Upon the question of the practical results of vivisection, our writer is particularly emphatic, and, we may add, particularly narrow and ignorant. He did once, he says, believe that vivisection had contributed much to practical medicine. But he has seen a new light, and now he knows he was mistaken. To support this view, that practical medicine has not been advanced, he quotes a number of opinions of eminent men. The quotations are short and are some of them from documents nearly ten years old. Furthermore they are not to the point, for this is a question of facts, not opinions. We are aware that a great deal of reproach still hangs around physiological therapeutics. It has, they say, found us no specifics, it has not furnished us with any of our most reliable drugs, but has given us only a mass of questionable theories. This is in a measure true. Physiological laws must be practically applied with great caution in administering drugs, and the physiological therapeutist must be a man of great good sense or he will be unsafe. For all that, we believe it impossible to place too high a value on the physiological method in therapeutics. No stronger argument, in the first place, for this view can be given than by contrasting the old text-books on therapeutics with those of Wood and Bartholow. The study of materia medica and therapeutics was formerly a mechanical routine, which exercised only the memory. Now it is one of the most interesting branches of medical science. It claims at once the attention of the student, it calls into exercise his best reasoning powers and introduces him to the most recondite phases of physiological law.

As for the direct practical results, it should be remembered first, that empiricism is four thousand years old, and physiological therapeutics hardly more than thirty. With this in mind, no sane man would condemn the possibilities of the latter, from what it has already done. It has certainly produced results large enough to justify our encouraging further work in every way.

We have not space to go into many particulars. We would recall the fact, however, that, by vivisection, Galen discovered that the arteries contained blood, Harvey discovered the circulation, and Aselli the lacteals. In later times Hunter discovered, by the same method, the use of the ligature for his treatment of aneurism, and the laws of collateral circulation. The use of the narrow ligature came also from experiments on living animals. By the same means, our knowledge of fractures and their mode of healing has been practically enlarged. Sédillot justified and introduced gastrotomy by his vivisections; nephrectomy was introduced in the same way. Ollier and Heine showed through it the periosteal reproduction of bone. Vivisection has given most valuable and practical information upon the healing of wounds of all kinds. The transfusion of blood is due to vivisection entirely. We have learned from it the mechanism of the heart-sounds, normal and pathological. Before the time of Fothergill, digitalis was used but slightly and hesitatingly. The knowledge of its physiological action which he gave us has greatly extended and defined its usefulness. Half a century ago, gelatine was a very popular article of diet, especially in France. It was thought to be extremely nutritious; one pound of it was alleged to be equal to six pounds of meat. The investigations of Magendie and the French Commission showed the falsity and danger of these ideas about the food. The experiments made to determine the functions of the liver and glands of the intestinal tracts have furnished data that are of immense practical value. Witness the extended use of pepsin and pancreatin. Rutherford's experiments have given us a new cholagogue and throw much light upon the action of old ones. Without Liebreich's vivisections, we might never have had chloral. Nitrate of amyl comes to us through the same channel; so do many of the uses to which we now put atropia. The antagonism of medicines, as of strychnia to chloral, of atropia to physostigma and opium could never have been definitely known without practical experimentation. Finally, there have been few contributions to practical medicine which have a higher value than those upon the nature of fever. The experiments of Burdon Sanderson and others, which showed that many of the symptoms in the various fevers were due to the heat, and were not a necessary expression of the specific poison in the system, would go far of themselves to negative the charge of the inutility of vivisection.

We have quoted enough, therefore, and believe it has been shown that the past usefulness and future promise of vivisection cannot be ignored or belittled. Vivisection is a real necessity to science, and it should not be hampered by any close legal restrictions. Our physiologists are not brutes, who need constant watching to curb their inhumanity. The amount of suffering that takes place in the physiological laboratories of this city is immeasurably less than that inflicted every day in our streets by impatient drivers and mischievous boys. We hope therefore, that these laboratories will be let alone. There is little enough scientific research in this country without putting checks on what already exists.

CARDIAC HYPERTROPHY IN RELATION TO RENAL DISEASE.

In a recent issue we alluded to the pathology of granular kidney, and this naturally suggests the present subject. Hypertrophy of the heart and renal disease, especially granular kidney, are frequently found to be associated. The fact has long since been recognized that this was no accidental coincidence. But precisely what was the nature of the interrelations between these pathological states has never been satisfactorily shown, so that in place of accurate knowledge we have only a multitude of various theories in explanation of the matter. Dr. Robert Saundby (reprint from the *Birmingham Med. Review*, January, 1880), by combining and comparing pathological, clinical, and experimental data, has reached several conclusions, which seem to deserve some attention in this connection. He finds that "in chronic Bright's disease the augmentation of the cardiac function is compensatory to the renal defect,"—a view which in his opinion "confirms the propriety of the practice of administering digitalis in these cases." But he adds that, "as far as possible, elimination should be favored by the skin and bowels, while the diet should consist of elements containing as small an amount of urea-forming substances as the general condition of the patient may warrant." It is further stated that "the high tension pulse indicates a high degree of toxæmia and relative failure of the kidneys." Blood impurities, he believes, are early and important phenomena in granular kidney. This we may at once assent to, since it is well known that urea and various extractive matters of the blood, are largely present in this fluid after the inhibition of the secretory activity of but a single kidney. Witness the cases of nephrectomy. The interesting experiments of Growitz and Israel (*Virchow's Archiv*, vol. lxxvii., p. 315) are also adduced by the author in support of this view. These writers, it will be remembered, found that unilateral artificial nephritis, or the removal of one kidney, was invariably followed by cardiac hypertrophy, and they also concluded, from accurate measurements, that this hypertrophy was actually compensatory for the renal defect, inasmuch as it bore a definite proportion to the amount of renal substance eliminated.

Moreover, Bright (*Guy's Hosp. Rep.*, vol. i., p. 397) had already intimated some such hæmic origin of the enlarged heart, for he distinctly says: "This naturally leads us to look for some less local cause for the unusual efforts to which the heart has been impelled; and the two most ready solutions appear to be either that the altered quality of the blood affords irregular and unwonted stimulus to the organ immediately, or it so affects the minute and capillary circulation as to render greater action necessary to force the blood through the distant subdivisions of the vascular system." Thus, it seems that after many years of observation and experimental investigation with the aid of all our modern improved methods, we are once more reverting to the explanations given by Bright over forty years ago.

According to Dr. Saundby, then, we are to regard the cardiac hypertrophy as "directly dependent on the state of the blood," and hence the characteristic rise in blood-pressure associated with Bright's disease, must be interpreted as its effect instead of as its cause. An increase in the capillary resistance, combined with the increased vigor of the heart's action, will therefore be the determining factors of the peculiar pulse observable in Bright's disease. But, "as the toxic material in the blood stimulates the heart and probably the kidneys, without raising the blood-pressure," we may observe increased secretion of urine or albuminuria before there is any perceptible modification of the patient's pulse.

These somewhat theoretical considerations are not entirely devoid of practical bearings, if only to teach us again the great importance of repeated and careful examinations of the urine. For it is only in this way than we can hope to diagnosticate the condition of granular kidney in its incipiency, and thus institute an effectual, because early treatment.

Reviews and Notices of Books.

THE ART OF PERFUMERY AND THE METHODS OF OBTAINING THE ODORS OF PLANTS: The Growth and General Flower Farm System of raising Fragrant Herbs, with Instructions for the Manufacture of Perfumes for the Handkerchief, Scented Powders, Odorous Vinegars, and Salts, Snuff, Dentrifices, Cosmetics, Perfumed Soap, etc. By G. W. SEPTIMUS PIESSE, Ph.D., F.C.S., Analytical Chemist, Author of "Chemical, Natural, and Physical Magic," "The Laboratory of Chemical Wonders," etc. Fourth Edition. Philadelphia: Presley Blakiston, 1012 Walnut Street. 1880.

MR. PIESSE's work on perfumery is in the fullest sense comprehensive. It treats of the subject from a technical as well as from a scientific standpoint.

After considering the history and properties of odors, it passes on to the philosophy of them, and, under the head of "Gamut of Odors," says: "Scents, like sounds, appear to influence the olfactory nerve in certain definite degrees. There is, as it were, an octave of odors like an octave of music; certain odors coincide, like the keys of an instrument."

"The analogy is completed by what we are pleased to call semi-odors." "If a perfumer desires to make a bouquet from primitive odors, he must take such as chord together."

"The perfume will then be harmonious."

After describing the different methods of extracting the odorous principles, as enfleurage, distillation, etc., there follows an exhaustive article on each of the agents which go to make up the perfumer's armamentarium. A full list of forms for perfumes and toilet preparations is given.

The portions of the work most important to the physician are those devoted to medicated soaps. The manner of combining such remedial agents as *sulphur*, *iodine*, *mercury*, etc., is described, and the important point noted that the absorbent vessels of the skin are very active during the lavatory process. It may be here stated that a medicated soap may be made, either by adding the agent to the melted soap, or beating it up with soap-curd and by expression forming it into the conventional cake.

Under the head of preparations for the hair, dyes, washes, and depilatories are considered. Two forms for the latter are given:

Slaked lime	3 parts.
Orpiment	½ part.

Quicklime	10 parts.
Sulphuret of sodium	3 "
Starch	10 "

The chemical portion of the work is important, and, in an appendix, methods are given for detecting adulterations in the different perfumes, and for the preparation of artificial fruit-essences.

There is also an article on the application of organic chemistry to perfumery.

Rocky Mountain Health Resorts: An Analytical Study of High Altitudes in Relation to the Arrest of Chronic Pulmonary Disease. By Charles Denison, A.M., M.D., etc., etc. Boston: Houghton, Osgood & Co. Riverside Press, Cambridge. 1880.

Doctor Denison, who has devoted much study to climatic influences in pulmonary disease, has presented us with a very readable, exhaustive treatise, as may be inferred from the title. It abounds in information of a character which is incapable of being reproduced in a review, and we therefore content ourselves with recommending it as a conscientious contribution to the literature of the subject. Even as a guide-book its value cannot be too highly estimated. A chest-examination chart, contained in a pocket-cover of the book, is intended to stimulate thoroughness in observations and a greater attention to important details.

Pathogenetic Outlines of Homœopathic Drugs. By Dr. Med. Carl Heinigke, of Leipzig. Translated from the German by Emil Sietze, M.D., of Philadelphia. New York and Philadelphia: Boericke & Tafel. 1880.

The author of this book has sought to fill an existing hiatus in the literature of homœopathic materia medica by producing a work without the bulky repertories of the text-books of Drs. Noak, Trinks, Clotar Mueller, and Jahr, authors who published about thirty years ago. He considers that the topical registration of pathogenetic symptoms renders difficult the understanding and easy survey of the drug-provings, and he therefore has in the present work arranged the registration of symptoms according to the *anatomico-physiological schema*. Dr. Heinigke states that the repertory to be added is merely to serve the purpose of presenting to the reader a group of remedies standing in specific correlation to certain organs and tissue-symptoms, and to direct the attention to the comparison of the characteristic pathogenetic features of a definite category of drugs, without, however, giving rise to the impression that their special study would thus be rendered superfluous.

In the author's introduction he claims that "the consideration and practical adaptation of the discovery that certain substances—which, as unprepared (crude, matter, are unable to produce a medicinal effect of any kind upon the organism—in a homœopathically prepared state, affect certain organs and tissues of the body in a definite manner, so that truly 'specific effects' must be ascribed to them, have remained to this day the exclusive property of the homœopathic school." However correct this assertion may be when applied to the German profession, it certainly has no application here, where it is not unusual to find upon a physician's shelves the works of Hughes and other writers alongside those of Ringer, Phillips, and Bartholow, while his medicine-chest contains many of the favorite remedies of the so-called homœopathic school. Whatever the judgment of individual members of the profession may be as regards the value of the drugs above alluded to, or of other preparations whose actions are homœopathic, as aconite and pulsatilla in small doses for neuralgia, or ipecacuanha for vomiting, certain it is that the number who find it profitable to investigate remedies of all kinds, when of imputed value, is steadily increasing.

A more special study of drugs can but still further relieve the homœopathic materia medica of inexact and verbose literature; and when provings are made to a greater extent than now by well-trained observers, the pathogenetic outlines of drugs will be apt to attract the attention of a greater number of educated medical men than heretofore.

The Student's Manual of Venereal Diseases; being the University Lectures delivered at Charity Hospital, B. I., during the Winter Session of 1879–80. By F. R. Sturgis, M.D., Clinical Lecturer on Venereal Diseases in the Medical Department of the University of the City of New York, etc., etc. New York: G. P. Putnam's Sons. 1880.

An unpretending volume of no little merit, in which italics, by way of emphasizing facts and propositions, are used with a rare judgment. The scope of the work is elementary, its style concise, and, as the author states in his preface, its aim practical. We bespeak for this little venture a well-deserved success—at all events, we are assured that there will not be imposed upon the purchaser much useless reading.

The Watering-Places and Mineral Springs of Germany, Austria, and Switzerland; with Notes on Climatic Resorts and Consumption, Sanitariums, Peat-, Mud-, and Sand-Baths, Whey- and Grape-Cures, etc. A Popular Medical Guide. By Edward Gutmann, M.D. With illustrations, compartive tables, and a colored map, etc. New York: D. Appleton & Co. 1880.

A medical Baedeker, quite complete, red cover and all. A novelty to be seen, not without some of the defects incidental to such new books by new authors, but a very welcome novelty nevertheless. This work of 331 pages, we are told, is not intended to be a "learned discourse on the physiological effects or chemical compositions of the springs, but a popular medical guide," for the purpose of making Americans, "unacquainted with the continental mode of living," somewhat "familiar with the arrangements, manners, and customs of living at the principal watering-places of Central Europe."

Dr. Gutmann has certainly performed a creditable task, and although his little book is not, strictly speaking, a medical essay, still the practitioner will not fail to find useful information scattered through its pages. For the annually increasing exodus to Europe will doubtless include some of his patients, and quite likely these have questioned him concerning the choice of their summer residence. All such questions he will be better prepared to answer after having glanced over Dr. Gutmann's book, and so far it forms a desirable acquisition to the physician's library.

It is evident at once, from the author's familiarity with all the details characteristic of the modus vivendi at the various places described, that he has himself repeatedly visited them. In fact, he tells us in his preface that he has "for the last ten years frequented all the important watering-places of Germany, Austria, and Switzerland, partly as a patient, partly for the purpose of obtaining a thorough knowledge of the same."

He has divided the book proper into four parts, and has annexed to these a few notes on climatic health-resorts. A map showing the position of the principal springs is added, thus indicating the nature of the work, which is that of a guide-book. This map, however, presents certain peculiarities attesting the author's knowledge of languages, it is true, but, on the other hand, marring somewhat the harmonious effect which geographical appellations are expected to produce. For behold, we find the German names of cities, rivers, lakes, etc., in the good old Teuton idiom; we find, however, some Belgian and Italian names paraphrased into German, but certain well-known islands are called Sicily and Sardinia in plain English, and certain familiar seas are called North Sea and Tyrrhenian, and the Mediterranean and Adriatic glory in English names. On the other hand, some French towns are still recognizable as such even to the purely Gallic eye. We notice an isolated attempt to anglicize Cöln into a familiar Cologne, but here the author's efforts apparently ceased and he relapsed at once into confusing German. It is to be hoped that the next edition of this book will see a map constructed on a uniform system of geography, and governed by monolinguistic principles.

Part I. is confined to some general remarks on watering-places and the use of mineral waters. In the second part we are given a topographical review of the watering-places. Then comes a section on the chemical composition and therapeutical application of the mineral waters, followed by the last part, which treats of climatological and balneological matters.

The author's style is pleasing, often sprightly, and creditably devoid of clumsy and puzzling Germanisms, which are so apt to creep into American books emanating from Teuton pens. Patients intending to go abroad may be advised to provide themselves with Gutmann's guide-book, and physicians will do well to glance over its pages for useful information.

* * *

Pasteur's Theory of Vaccination.—Says a correspondent of *The Lancet:* "The last two meetings of the Academy of Medicine have been rendered interesting by communications from M. Pasteur. Recent experiments with the virus which gives rise to the cholera of fowls have led the eminent biologist to conclusions respecting the variola and vaccinia which are of the very highest importance. Vaccine matter, says M. Pasteur, is nothing else than attenuated or diluted variolous virus, and it is unnecessary that it should pass through intermediate organisms. The experiments tend to prove that a weak dose of specific virus gives rise to a mitigated form of disease, which, however, is protective against the occurrence of the disease in its ordinary evolution. Should these views be justified by future research, and should their application be extended to other diseases, a new light will be thrown on the pathology of zymotic affections, and their prophylaxis rendered a matter of certainty."

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, May 24, 1880.

Dr. A. E. M. Purdy, President, in the Chair.

The Society was called to order at 8 p.m., and the minutes of the last stated meeting were read by the Secretary, Dr. F. A. Castle.

THE CLINICAL HISTORY OF A CASE OF LEPROSY, WITH REMARKS.

Dr. Sturgis read the notes of a case, which had been under the care of Dr. H. G. Piffard and himself. A male patient, past middle age, with negative family history, resided, previous to 1862, in Mexico and Texas. He returned to the State of New York in 1865. In 1874, the patient first noticed an eruption, maculæ, varying in size and of a reddish color that disappeared upon treatment, and he was not again troubled until 1876, when the maculæ reappeared and remained about one year. At some time during that period the patient's eyebrows fell out. In 1878, a tubercular eruption appeared upon the forehead. The legs had been swollen very large. He was admitted to Charity Hospital in October, 1878, where he submitted to a variety of treatment; took arsenic, mercurials, and also quite freely of gurjun balsam, but all remedies seemed to be ineffectual. In December, 1879, the tubercles had increased very much, had appeared upon the chin and the neck; the front part of the body was free, the upper two-thirds of the back were free except from melanotic stains. The skin on anterior aspect of the arms was thickened and contained numerous tubercles, varying in diameter from $\frac{1}{10}$ to $\frac{1}{4}$ of an inch, elevated, completely insensible. Neither hemorrhage nor pain followed the insertion of a pin the whole length into these thickened and tuberculous parts. The skin of both knees was thickened—extending down to the ankles, and the feet and hands were purple. The use of chaulmoogra oil was then begun, ♏vi. t.i.d., internally, and on ointment (25 per cent.) was used externally. The patient improved under its use, the noteworthy point being that the subcellular infiltration diminished and the tubercles were not so prominent as heretofore. There being no disturbance produced by the oil, it was continued, and the dose internally increased to ♏viii., with the ointment as previously applied. About the 20th of January, 1880, the patient had diarrhœa sufficient to cause the discontinuance of the oil, but it was resumed on the 22d, and soon after increased to ♏x. t.i.d., internally, and early in February the ointment was discontinued, and the clear oil applied externally. On March 15th the analgesia seemed to have returned, and again a pin could be run into the thickened portions of skin to the distance of half an inch without producing any sensation. March 29th.—Treatment continued. Tubercles over body softer and smaller; infiltration of skin less. Numbness still present, but less than at the last note. No disturbance from the use of the medicine. May 1st.—The tubercles still getting smaller and softer. On the 15th the freedom in motion of the skin almost normal; local anæsthesia had nearly disappeared. Treatment continued up to present date. (Patient exhibited.)

Dr. H. G. Piffard remarked that one interesting feature in the clinical history of the case was that while the patient was not taking the medicine last used, the disease began to return. One of the characteristics of this, as of other cases, was the cutaneous anæsthesia, complete in some parts. For instance, at one time the patient could run a pin into his hand nearly up to its head without producing any sensation, and the anæsthesia, which had disappeared while using the chaulmoogra oil, began to return while the oil was discontinued. [The supply in the hospital at one time gave out, and Parke, Davis & Co. of Detroit, Mich., forwarded three pounds for special use.]

Dr. Piffard then made some remarks concerning leprosy, with special reference to its history, morbid anatomy, etiology, symptoms, and treatment. The disease was of ancient origin. It was, however, probable that the term leprosy, used in the Bible, included a number of diseases besides that illustrated in the patient presented. The first to give a distinct account of leprosy, one by which it could be recognized, were the Greeks, but they did it under the name elephantiasis. The Arabians of the tenth, eleventh, twelfth, and thirteenth centuries gave a description of the disease which they called lepra. They have an entirely different disease which they call elephantiasis, consequently the term elephantiasis is likely to lead to confusion. The elephantiasis of the Arabians, characterized by great hypertrophy of the skin, is an affection quite different from true leprosy, which presents three marked varieties, known as the maculæ, the anæsthetic, and the tubercular. Occasionally cases occur which for many years exhibit the same character of lesion; for instance and by preference the maculæ, while in other cases the anæsthesia will be the leading feature; and in yet other cases there is slight maculation, possibly some anæsthesia, and a good deal of the tubercular element developed. As a rule all the varieties are illustrated in one case—as in the patient exhibited.

The morbid anatomy, briefly stated, consists in connective-tissue proliferation which affects the skin and the nerves. The tubercles are the result of the same change. The nerves and the skin are infiltrated with small round cells. The first physical sign is enlargement of the nerve-trunk affected, that most frequently involved being the ulnar nerve, and after that the nerves of the lower extremities. The ulnar nerve usually becomes very much enlarged by the infiltration, with small round cells everywhere within the sheath. Pressure upon the nerve-fibres is produced in that manner so as to cause pain, and pain is one of the earliest among the symptoms of leprosy. After a time the pressure is so great that the nerve-fibres are destroyed, the first change doubtless being a fatty degeneration of the white substance of Schwaan, finally the axis-cylinders, and at last, instead of a nerve-trunk, there exists a mere cord of sclerosed tissue, the ulnar being reduced in size from that of the little finger to that of a crow-quill. The changes are: first, proliferation, second, atrophy and disappearance of nerve-matter. The symptoms, therefore, are readily explained: first hyperæsthesia, second, anæsthesia. But leprosy does not always present the same symptoms at the beginning. It is a disease which may not appear until long after it has been contracted. In the case reported the disease did not appear until several years after the patient travelled in countries where it exists endemically, and where doubtless he contracted the affection. The first symptoms are not distinctive, the patient having, perhaps, some malaise, etc., later maculæ, or the maculæ may appear first upon any part of the body, usually upon the back part of the chest; or instead of maculæ he may have bullæ, and those cases, as a rule, are the ones in which the anæsthesia is most marked subsequently; or the disease may first exhibit itself as tubercles upon the face and other parts of the body. The disease, as a rule, gradually progresses until the three varieties mentioned can be seen in the same case. The tubercles are frequently stationary for some time, perhaps two years, and then gradually subside. In some cases suppuration occurs, abscesses form, and the tubercles disappear in that manner; but as a rule they disappear gradually and through the process of fatty degeneration and absorption. At the same time that some of the tubercles are disappearing others may be forming in the immediate neighborhood.

During the stage of hyperæsthesia the parts affected swell enormously, a limb reaching, perhaps, twice its normal size, the integument is stretched and shining; but the pain gradually disappears, the swelling gradually diminishes, the skin becomes whiter, and a little furrow occurs, perhaps across the dorsum of the distal phalanges of the fingers, not at the joint, but at some other point, and the furrow deepens, until after a time the patient some day notices that the tip of his finger is gone. The same changes may occur upon the toes. The gradual absorption of the bony tissue is more like the process of caries than necrosis, and may result, as in one case seen (illustrated by photographs), all the fingers and a portion of the metacarpal bones on the left hand were removed, the toes and a portion of the metatarsus on the left leg, and the right foot and leg were diseased still more than the left. The disease does not seem to be directly fatal in a majority of cases. As a rule, death is caused by some intercurrent disease, such as pulmonary, gastro-intestinal, etc. The average duration of life, as stated by Professors Danielssen and Boeck, is from twelve to fifteen years.

With reference to etiology, the history of leprosy in the Sandwich Islands leads one to the opinion that the disease is contagious. There are several thousands of lepers there, where the disease, several years ago, was not known.

The late Dr. Bulkley reported one case occurring in a person who had never been out of the State of New York, and in his diagnosis he was sustained by Boeck, of Christiana, Sweden. But the disease is not contagious from simple contact or through emanations from the body. Quite a number of cases have been traced to vaccination. It is believed to be hereditary, and there is considerable reason to suppose that such is the case. However, the etiology of the affection is decidedly uncertain.

With regard to treatment, the tubercles can almost always be caused to disappear by the application of some irritating substance, such as iodine ointment, chaulmoogra oil, etc. Cardol has been used on the anæsthetic patches with good results, as well as on the tubercles. Cleanliness is important. The three drugs which seem to have been of some service in the treatment of leprosy are nitrate of silver, as recommended in the "U. S. Navy Reports," nux vomica, which has appeared lately in a Tonquin remedy called hoang han, and chaulmoogra oil. If the disease is chiefly an affection of the nervous system, the use of nitrate of silver and strychnia preparations seems to promise the most benefit. Specimens of hoang han, hyrocolyte Asiatica, cardol, chaulmoogra, were exhibited, together with several photographs.

Dr. Samuel Sherwell, of Brooklyn, referred to a case under his care, and which had been reported in the *Archives of Dermatology* for April, 1880. An interesting item in the clinical history of the case was the occurrence of measles while the leprosy was steadily progressing.

Dr. G. H. Fox exhibited some photographs of cases of leprosy occurring in the Sandwich Islands. He thought the prognosis in cases of tubercular leprosy was not at all favorable. The duration of the life of a leper varied considerably, according to the predominating variety of the disease; the average was about twelve years, but with the macular variety the patient might live fifteen or twenty years; while with the tubercular variety he rarely lived more than nine years. With reference to the patient exhibited, Dr. Fox did not feel sanguine concerning a cure being effected.

Dr. Sturgis remarked that his expectations were not very great with reference to prognosis in the case brought before the Society. There had been a marked improvement, but as to its being permanent he was very doubtful.

Dr. Sherwell remarked that the manifestations of the disease were very much less than they were six months ago. The question of the occurrence of eye lesions in leprosy was raised, and Dr. Sturgis referred to Hanson and Ole Bull, who had described diseases of the eyelids and iritis associated with leprosy. The larynx, also, was sometimes entirely destroyed by the disease. Of other internal lesions he had no knowledge.

Dr. J. C. Peters presented a report as delegate to the National Pharmacopœial Convention.

The Comitia Minora was authorized to appoint the allotted number of delegates to the American Medical Association.

Dr. C. R. Agnew called from the table the portion of the report of the Comitia Minora concerning the application of Mrs. Clara L. Black for membership, and after some discussion the recommendation of the Comitia, that she be admitted to membership, was adopted by a vote of ayes 38, nays 11.

The Society then adjourned.

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THE NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 9, 1880.

Dr. H. B. Sands, President, in the Chair.

Dr. Frank H. Hamilton presented specimens of supposed

FRACTURE OF THE HUMERAL EPICONDYLES,

received from Dr. Zuckerkandl, prosector in the University of Vienna.

The President referred to illustration of fracture of the external condyle and remarks upon two cases made in Gurlt's "Surgery." In one of the cases the fracture was spoken of and illustrated as fracture of the epicondyle not involving the lesser head. The other was spoken of as extending a short way through the articular surface, therefore not an example of pure epicondyloid fracture.

Dr. Hamilton remarked that the point which he had made was that it was so small it would escape observation clinically, and further, that it had not been shown by autopsy that it ever occurred.

Dr. L. A. Stimson remarked that he could not understand how fracture of the external epicondyle could be produced except in a person under sixteen years of age.

Both the external lateral ligament and the muscular attachments extend beyond the limits of the epicondyle, and fracture could occur only by tearing off these firm attachments to the bone.

Dr. T. M. Markoe had no doubt that fracture of the internal epicondyle could occur, but with regard to the external epicondyle, he had always had the conviction that it could not be broken off by external violence. It was an eminence simply rather than a prominence, and it seemed to him to be simply impossible to fracture except by exceedingly violent action of the ligaments and the muscles.

Moreover, in the bone of the young child the eminence or elevation known as the epicondyle was not only less than in the adult bone, but it was even dome-like almost, and the bony part which united the capitulum was exceedingly small, and it was very late in uniting with the remainder of the bone. Of course, it was only an impression, but he was not able to conceive how in either a child or an adult this fracture could take place, and he did not think the specimen exhibited was at all conclusive upon that point.

Dr. Lange referred to a case in which there was complete separation of both epicondyles as the result of injury. The patient was a boy ten years of age, who received a compound fracture of the elbow-joint.

There was almost complete separation of the articular part of the epiphysis, it being thrown almost completely out of the joint, and was held only by some small fibres. The epicondyles were in connection with the diaphysis, through the periosteum and the ligamentous structures, yet separated. He removed the lower end of the diaphysis and the articular part of the epiphysis, and the patient made a good recovery. The specimen did not show the epicondyles as they were left in connection with the periosteum, and assisted in giving shape to the newly formed extremity of the humerus. He thought it was a case which showed clearly that it was possible for the epicondyles to be separated in a young person, that is, before bony union had taken place.

Dr. Hamilton said that he had not understood that its possibility had been denied, but simply that the occurrence had not been proven.

Dr. Markoe thought that, in estimating all these anatomical points with reference to fractures, we should exclude from our study such cases as that to which Dr. Lange had referred. Certainly he could conceive that in a compound fracture the bones might be so broken that both epicondyles might be separated; and a musket-ball might have done the same thing; but the occurrence of fracture by (any other known?) violence was not explained by such cases. He thought that way of looking at the question should be borne in mind.

Dr. Hamilton remarked that that was precisely what was demanded, namely, the evidence of simple uncomplicated fracture, the occurrence of which he thought had not yet been proven.

Dr. Lange remarked that in his case there was no injury of any of the bones of the joint except as mentioned, and the surfaces in the specimen were smooth, showing that there had been a separation in the connecting cartilaginous structure.

Dr. Stimson remarked that he had an epicondyle unossified at the age of sixteen.

Dr. McBurney referred to a dissecting-room specimen to which a student directed his attention. It was a movable fragment over one internal condyle, and upon examining the other arm a precisely similar movable fragment was found at a corresponding point. In dissecting both arms it was found that they were fragments of bone, and that they corresponded precisely in appearance to the epicondyles, and gave origin to the flexor muscles of the forearm. He could very readily understand that if the person had received an injury about the elbow, followed by tenderness, it very probably would have been regarded as a case of fracture. It was evidently an old condition, and he thought it quite probable that it had existed during the man's life.

COMPOUND DISLOCATION OF BOTH BONES OF THE FOREARM UPWARD.

Dr. **Erskine Mason** reported two cases of complete dislocation of both bones of the forearm outward.

In one case the patient was a girl, seven years old, who, while climbing up into a closet, fell and received the injury, which, when Dr. Mason arrived a few hours afterward in consultation with Dr. Dew, was clearly marked. How she struck, the patient was unable to say.

The other case occurred in a boy twelve years of age, who came into Roosevelt Hospital on the 25th of February, 1876. The only history obtained was that he fell over the rocks, received the injury, and was brought at once to the hospital. The palm of the left hand was covered with dirt, while the right hand was clean. There was no difficulty in reducing the dislocation in either case. These were the third and fourth cases of the kind with which he had met. The first was in Bellevue Hospital a few years ago, and occurred in a young man. The second was an old dislocation which he saw in Dr. Hamilton's office.

ABSCESS IN THE UPPER PORTION OF THE TIBIA.

Dr. **L. A. Stimson** reported a case as follows: The patient was a boy fifteen years old. When thirteen years of age he was attacked by severe pain in the right tibia, which lasted several weeks, subsided, recurred at the end of six months, again subsided, and again recurred six months later, when Dr. Stimson saw him for the first time. The upper part of the leg was then swollen, the swelling extending downward along the central part of the tibia, and the soft parts gave the sensation of false fluctuation. The bone was evidently enlarged in its circumference, and there was localized tenderness and a ridge about the site of it. After rest in bed and the application of cotton and a bandage, the pain disappeared and the boy went home. Five or six months afterward he was again seized with pain in the same bone, and all the previous symptoms returned. There was a distinct localized point of maximum tenderness upon the inner surface of the tibia, about three inches below the articular edge. Although he suspected central disease he temporized and put the boy in bed, covered the limb with cotton, made pressure by means of a bandage, and awaited further development. At the end of three or four days the pain upon the inner side of the tibia had diminished, and about a week after he was first seen he was taken with severe pain on the outer side of the tibia, at the same level. A distinct swelling was then found between the tibia and fibula, at a corresponding point.

On the following morning he cut down upon the bone, found the periosteum loosened and very much thickened, fully one-quarter of an inch thick, soft and gelatinous, very much like the tissue about a strumous joint. A crucial incision was made and the periosteum stripped up, and a trephine made to enter the tibia about three-fourths of an inch, where a cavity was encountered, from which came two or three drachms of pus. The boy went on to rapid recovery.

The point of interest in the case was the following: Might not abscess of that kind be the starting-point of many of the cases of bone disease, which come under observation in dispensaries and hospitals?

In looking through text-books on surgery, he had not found any testimony on the subject; but in reviewing some special writings, particularly Prof. Markoe's book on diseases of the bones, he had found the subject thoroughly discussed, and the possibility of caries arising in this manner seemed to be perfectly well demonstrated. If that was true, early trephining in bone disease should, perhaps, be employed, much more than it is at present, as a preventive of the obstinate and deforming diseases which follow if the disease goes on unchecked. Some of the best results had also been obtained when no pus was found, and the operation, with antiseptic precautions, was certainly not a dangerous one.

Dr. **Morgan Smith**, of Connecticut, had reported, in *Hay's Journal*, in 1838, three or four cases of what, at the present time, would be described as acute osteomyelitis, in which he perforated the bone with a drill, giving exit to pus, and thereby giving relief immediately to all the symptoms. In every case recovery took place without necrosis. The possibility of spontaneous evacuation of the pus had been discussed by Chassaignac in a posthumous work published in the *Bulletin of the Society of Surgery*, in 1879, and the cause which produced it was attributed entirely to the perforation of the periosteum from without inward, and not from within outward.

Dr. **Stimson** thought that the abscess, in his case, was in the medullary cavity, and presumed that there was a diaphragm which cut the pus off from the lower part of the canal.

Dr. **Hamilton** asked, Why should not the same method be adopted long before the existence of pus was expected, in cases of impending destruction, for example, of the epiphysis in so-called white swelling? Would not an early operation prevent a certain proportion of cases of chronic osteo-myelitis of the epiphysis?

The **President** remarked that the French had already resorted to the early treatment by means of the Pacquelin cautery.

Dr. **Stimson** remarked that Bryant had reported several cases in which he trephined in the early stages, and with good results (*Guy's Hospital Reports*, 1879).

Dr. **Lange** remarked that the plan had been recommended by Kocher, of Berne. It was also adopted, when he was Prof. Esmarch's assistant, and he had seen him treat a number of cases of white swelling in that manner. It seemed to Dr. Lange that it was a method that could be resorted to with great benefit in the early stages, especially with regard to pain, which disappeared almost instantly on making the ignipuncture.

Volkmann and Luecke had practised and recommended opening the epiphyseal part of bones without opening joints by making the operation extra-articular, and so remove all the diseased parts. The intention was to effect a cure without disturbing the joint, and they had been successful in several cases.

Dr. **Stimson** thought that abscess did not occur with such frequency in the epiphysis as in the expanded portion of the bone.

Dr. Hamilton said that when he used the term epiphysis, it was in the sense in which it was commonly employed; but he meant to speak of the more expanded upper portion of the tibia or lower portion of the femur.

FAVUS OF THE PENIS.

The President reported a case as follows: About a week ago he was consulted by a physician, who came from Connecticut, to obtain his opinion with regard to what he called two ulcers upon his penis, for the existence of which he could give no explanation. He was a married man, and said that if he had contracted any disease it must have been from his wife, whom he had no reason whatever to suspect. He said the sores were upon the outer surface of the foreskin, near the glans, and that they had appeared about a month after connection, and three weeks previous to his visit to Dr. Sands. At first he thought nothing of them, but as they persisted and increased in size he became alarmed and sought an explanation. At first, when questioned, he had no recollection of having received any injury, but soon recalled the fact that he had received a slight scratch upon his penis from a pet cat which was in the habit of getting into bed with himself and wife every morning. Upon examining the penis Dr. Sands found two well-marked patches of favus, about a quarter of an inch in diameter, which had been mistaken for ulcers. A portion of one of the crusts was removed and placed under the microscope, when the nature of the disease was clearly revealed. The crusts were removed and a solution of bichloride of mercury applied.

DIPHTHERIA OF THE PENIS.

Dr. Lange gave the following history of a case: About one week previously he was called in consultation to see a Jewish child three weeks old, which had been circumcised. At the time the operation was performed there was another child suffering from a grave type of diphtheria of the throat, soon after terminating fatally, and yet another child was subsequently attacked by the disease. In the case he was called to see he found a diphtheritic membrane covering the cut preputial surface, and two patches upon the scrotum, apparently due to coming in contact with the glans. The surface had already been cauterized several times, and Dr. Lange applied the actual cautery, as strong as was admissible, without much effect. There was no evidence of the formation of a line of demarcation. To be sure the process was essentially at a standstill, but the penis remained a swollen and infiltrated mass. The child was not very badly nourished, but was somewhat weak, had much trouble in urinating, and the diphtheritic process was going into the urethra, causing slight adhesions of the lips of the meatus and great pain. He thought such operations should not be done during the prevalence of diphtheria in the same house, and asked the Society if further cauterization would be beneficial, and also for further suggestions regarding treatment.

Dr. Robert H. Chase has been appointed resident physician at the Norristown State Hospital for the Insane. Miss Mary H. Stimsom was elected female house physician, but declined on account of her health.

THE CHICAGO GYNECOLOGICAL SOCIETY.

Meeting of May 21, 1880.

THE MANAGEMENT OF THE UTERUS AFTER LABOR.

Prof. J. H. Etheridge read a paper on this subject. He was certain the condition of the uterus after labor was too little studied. As a consequence much permanent uterine disease resulted, much more, in fact, than was usually supposed by the profession. He had tabulated the last hundred consecutive gynecological cases which had occurred in his dispensary practice, with a view to ascertain the causes of the ailments. There were excluded only virgins and women suffering from malignant and venereal diseases. The result of this enumeration, with the diagnoses, was as follows:

Causes.		*Diagnoses.*	
Confinements........	50	Hypertrophy........	34
Miscarriages.........	28	Uterine catarrh......	53
Hard work..........	5	Lacerated cervix.....	9
Unknown...........	17	Prolapsus..	2
		Metrorrhagia........	1
		Retroflexion.........	1
	100		100

Thus, 78 per cent. of these cases followed closely gestation, partial or complete.

The duty of the obstetrician to his lying-in patient did not end till involution of the uterus was complete. This required a period of six to eight weeks. The process was fatty degeneration and absorption. Interference with this process led to uterine disease, in fact anything that lowered the normal health-standard. Faulty nutrition did it; diathesis did it; *e. g.*, the rheumatic, strumous, and gouty. He spoke with confidence on this point from having cured many patients with anti-rheumatic, anti-gouty, or anti-strumous remedies. Anæmia from loss of blood at confinement often interfered with the process of involution. Subinvolution was common in women whose anæmia dated from confinement. Constipation interfered with involution; laceration of the cervix did so likewise. Other causes were bad hygiene and depressing emotions; another still was too early resumption of the sexual act, and another was the condition generally known as neurasthenia.

The treatment of such cases should be general and local. Dyspepsia and constipation must be reduced to a minimum: the diathetic state corrected, if possible; anæmia relieved. For the neurasthenia, massage, good diet, and all the elements of good hygiene, with perhaps electricity, were the best measures.

For local treatment, lacerations should be closed, prolapsus relieved by well-fitting mechanical supports; ergot should be given in small and repeated doses by mouth or rectum (*e. g.*, 10 to 15 drops, four to six times daily, by the mouth); hot-water injections per vaginam—one to two gallons of very hot water two or three times a day; and when impossible per vaginam, then fewer and smaller injections per rectum. Another measure of benefit was, for subinvolution in chronic cases, the use of tents for repeated distention of the uterus; the slippery elm, sea-tangle or tupelo might be used. Uterine massage, he thought, was a valuable remedy.

In the discussion which followed, Dr. E. said it was claimed that hot-water injections produced temporary anæmia, followed by increased turgescence. This as true only when they were resorted to infrequently. f taken three or four times a day, the blanching ffect of one injection remained till the next.

For the constipation accompanying dyspepsia in many cases, he thought nothing better than laxave doses of mineral waters. A woman should be orizontal and resting most of the time after connement till after the fundus uteri ceased to rise bove the pubes.

Correspondence.

DOES CHLOROFORM EVER CAUSE DIABETES?

A Question to the Medical Profession.

To the Editor of The Medical Record.

EAR SIR:—I wish to lay before you, and the medical rofession generally, the facts of a case occurring in y practice which is of great interest to myself, and hich I hope may be so to others, as it is, so far as I now, unique.

On the *tenth* day of April last, I was called to see . C., a healthy boy, three years and nine months of ge, who had the misfortune to tumble from a fence d injure his elbow-joint. He was very much frightned, and the slightest manipulation of the affected rm seemed to cause him great pain, and at the olicitation of his mother I administered a little hloroform—not enough to produce complete unconciousness, but just sufficient to render him a little uiet so that I could make the necessary examinaion. The external condyle of the right humerus as broken off, and for lack of a proper splint I did up temporarily in one of pasteboard. I did not isturb it again until the thirteenth, at which time I gain found it necessary to resort to the anæsthetic. his time the administration of the chloroform was trusted to the father of the child, and for about vo minutes near the close of the operation, he was retty thoroughly under its influence, though he raled quickly, and there were no worse symptoms subequently than a considerable degree of gastric irriation, as evidenced by vomiting during the night ollowing. From this time the child seemed to be oing well, and I removed the splints, for the purpose f manipulating the joint to prevent stiffening, on e 21st, eleven days after the injury, and again relaced them. At this time the child's mother remarked to me that Harry seemed to be passing an nusual amount of urine. Otherwise he seemed well, laying about as usual, and with a tolerably good ppetite. I made some inquiry as to the character f the urine voided, and as he appeared to be in a omewhat nervous condition, I attributed the increased flow of urine to that circumstance. I next w him on the 28th, when I again removed the lints and manipulated the arm as before, replaced em, and instructed the mother to remove them very day and use passive motion. At this time the ild, to all appearance, was doing well, except that e was somewhat constipated and still passing too reat a quantity of water. I left some simple remeies for him. The arm was gaining nicely and I saw im no more until May 8th, upon which day his ther called at my office and requested me to visit is child, remarking that his wife seemed to be great-, and as he thought, needlessly alarmed about him. I accordingly went and found a great and decided change in his condition. He was restless, had evidently been losing flesh and color, respiration short and sighing, but there were no râles or other physical signs of pneumonic trouble. The temperature was normal, and the pulse, though excessively weak, was in other respects natural. Bowels obstinately constipated; thirst considerable, and urine still very abundant. I now, for the first time, suspected the *real* cause of the excessive secretion of urine, but as none of it was at this time procurable, I could not verify my diagnosis. I prescribed such remedies as seemed indicated to relieve his constipation and the other symptoms, and did not see him again until about 3 o'clock the next morning, at which time I was called in great haste, as he appeared to be dying.

I found him very restless, frequently screaming as if in great agony, with cold extremities, pulse scarcely perceptible at times, respiration short and sighing, and he was evidently fast passing into a state of collapse. His mind was clear, and remained so to the last. I saw the utter hopelessness of his condition, and to allay his evident agony, administered morphia at sufficiently frequent intervals to keep him quiet.

At this time I procured about 4 oz. of his urine, which was frothy, light colored, and of slightly acid reaction.

The specimen examined subsequently showed a sp. grav. of 1034, and with Luton's test—kindly applied for me by Dr. Edward H. Parker, of Poughkeepsie—abundant evidence of sugar. The child lingered until about eleven o'clock the following night, when he quietly expired.

The mother—a lady of more than ordinary intelligence—had told me previously of the case of an aunt who had died in St. Luke's Hospital, New York, after operation under ether, not from the effects of the surgical procedure, but, as she expressed it, from "her blood turning to water" as a consequence of the anæsthetic. My friend, Dr. W. Washburn, has kindly examined the hospital record of this case, and ascertained that she never fully recovered from the shock of the operation, had *suppression* of urine, and died comatose two days after, autopsy showing chronic parenchymatous degeneration of the kidneys. So the mother had evidently received a wrong impression, but when her child's condition became apparent, very naturally reverted to the *chloroform* as the *cause* of the trouble. I have questioned her minutely and repeatedly in regard to the state of her child's health, and especially as to the condition of his urine, its quantity, etc., previously to the anæsthesia; but she persists in declaring that he had always been healthy, and had never shown a symptom of diabetic trouble until after the use of chloroform, but, on the contrary, she had noticed on several occasions (and she is a close observer, and had been always most solicitous concerning her child's health), that his urine was a little *scanty*, and had administered some simple remedies for it. She says, also, that the increased flow of urine commenced *immediately after the last administration of chloroform*, so that she was obliged to take him up several times during the following night to allow him to urinate, a thing which *never* had occurred before.

And now for the question of interest in the case.

Has the anæsthetic use of chloroform ever been known to *cause diabetes mellitus?* I can find no allusion to such in any of the books to which I have had access, nor have any of my professional brethren to whom I have made known the facts of the case found a parallel, either in their experience or their reading. Did the chloroform in my case *cause* the diabetes? *might* it have caused it? or did it merely precipitate an already existing disease?

The disease, in my case, certainly run a most rapid course, even for so young a subject, for, from the time of the last administration of the chloroform, from which date the *observable* signs of the disease *certainly* had their beginning, to the time of his death, was only twenty-six days. "Sit lux."

Respectfully,
Geo. Huntington, M.D.

La Grangeville, N. Y., June 18, 1880.

PROVIDENT DISPENSARIES.

To the Editor of The Medical Record.

Sir—There is a young lady in this city, a doctor of medicine, who has recently displayed much enterprise and energy of character. These qualities had previously been trained by a homœopathic education, and they now appear to be leavened, as it were, by philanthropic aspirations.

Influenced by a desire to relieve the physical, and particularly uterine, troubles of her own sex, she has established a dispensary, where, for the small sum of twenty-five cents, her services will be rendered to women and children. It is not distinctly stated that this sum represents the value of the service given, but it is all that will be asked. This lady, though thus bold and unselfish in her peculiar philanthropy, is not alone or the first in it. From London and from Salt Lake City similar notices of low fees and lofty endeavor have startled the profession. Indeed, the plan of small fees and many of them is evidently spreading and deserves attention.

Twenty-five cent dispensaries are the offshoot of medical competition, and the abuses that have become a part of the regular dispensary system. That they degrade the practitioner without elevating the patient or improving the system of charity, goes without saying. Undertaken, as a rule, by irresponsible parties, they serve to cloak incompetency and pecuniary ambition under the mantle of philanthropy. They are liable to innumerable abuses, and on this account alone can never, even under responsible management, help to solve the problem of the proper application of medical charity. Nevertheless, they are the legitimate outgrowth of the present dispensary system, and are liable to crop out as long as that remains unchanged. It is found, in dispensary practice, that a number of patients are willing, perhaps anxious, to pay fifteen or twenty-five cents, because they do not wish to be thought beggars, while a small sum is all they can afford to give. This class is a large one; added to those who could pay more or less, but will not, it amounts to more than half of those who visit dispensaries.

The problem, then, is how to utilize such contributions as these patients are able to make, so that they can receive medical treatment in a way satisfactory to themselves and not degrading to the medical profession.

I am of the opinion that the only practical solution of this problem is in the establishment of provident dispensaries. These should be mutual health associations, and should be adjuncts, and supplementary only to the regular dispensaries.

I am perfectly aware of the difficulties in the way of establishing such institutions. These difficulties, as well as the details of organization, have been often discussed in your columns. I am aware, too, that attempts have already been made, without success, to establish provident dispensaries in this city. Neverthless, this is the only plan having the least claim at practicability, by which it is possible to relieve materially the immense abuses in our medical charities. Besides, the prospects of success are better now than several years ago. Such institutions have been introduced into England, and have, after much trouble and opposition, attained a wide prevalence and popularity there. With us the existence of gross abuses in the bestowal of charity is now better known and more deeply felt. There is a population of from 100,000 to 200,000, at the least, now relying mostly on dispensaries, which could very well pay for its medical relief by the provident system. It requires only a membership of from 3,000 to 5,000 to make a provident dispensary self-supporting. There is no reason, therefore, in the nature of things, why these associations cannot be successfully organized.

We should not expect too much of them, however, at first. There is a certain improvidence among Americans, a fixed idea with each one that he will soon be richer and above the need of help, that will be hard to fight against. In England it is the old-style dispensaries that have been the worst enemies of the new; and much opposition, direct or indirect, must be expected from them here. Considerable money, therefore, would be needed to start the first ones.

Finally, allow me to say that I cannot insist too strongly on the suggestion already made, that all such dispensaries be under the control of the regular medical societies. Without this they would become rank with abuses and demoralizing alike to the profession and the public. With them, however, under such direction, we could hope in time for a great improvement in the distribution of medical charity.

General Practitioner.

New York, July 6, 1880.

Oleo-margarine unfavorably considered in France.—M. Riche has just presented a report to the Paris Academy of Medicine on the substitution of oleo-margarine for butter and lard in the preparation of food. The substance had been so highly praised that the French Minister of Commerce asked the Academy to investigate it. Numerous experiments were tried, chiefly upon patients in insane asylums. M. Riche's report shows that neither the attendants nor the patients bore well the substitution of oleo-margarine for butter; that the change of diet was injurious, because vegetable oils are more difficult to digest than animal oils.

The Night Medical Service of Paris.—Now that the night medical service has been established in this city, the statistics of this service in Paris, just published, may be of interest. They cover the first quarter of the present year. During that time 1847 visits were made, being an increase of 462 on the preceding year. The proportion of patients visited was: women, 48 per cent.; men, 35 per cent.; children under three years of age, 17 per cent. The diseases and accidents requiring assistance were: throat affections, 143; croup, 64; bronchitis, 143; intestinal derangements, 116; hepatic and nephritic colic, 55; strangulated hernia, 19; retention of urine, 22; hemorrhage, 78; wounds, 67; fractures and dislocations, 36; convulsions, 88; eruptive diseases, 57; confinements, 133.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending July 3, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
June 26, 1880.	0	7	27	4	32	38	0	0
July 3, 1880.	0	9	28	8	22	38	0	0

Transverse Depressions on the Nails.—For some time there has been a good deal of correspondence and comment on the subject of transverse depressions on the nails. It was asserted that whenever a person is sick it causes such a depression in the nails, and in this way insurance examiners, for instance, might know whether a person is telling the truth when he says he has always been well. Dr. Richard Budd now writes to the *Lancet* and says, that for thirty years he has had transverse depressions on his nails, and yet he has never been sick in his life.

Fowl-cholera.—M. Pasteur, having shown that fowl-cholera is due to a specific germ, now states that inoculation with a mild virus prevents the disease.

A New Ophthalmological Hospital has been established in Paris.

The Decline of the Use of Salicylic Acid in the Treatment of Rheumatism.—In a paper read by Dr. Greenhow before the Clinical Society of London, the question of the value of salicin and the salicylates of soda in the treatment of acute rheumatism was discussed. While admitting that these drugs gave great immediate relief, Dr. Greenhow stated that they did not lessen the complications of the disease, that they did not lessen the time when the patient was disabled, that they left him in a more than usual anæmic condition; and that they rarely lessened the hyperpyrexia. Several gentlemen agreed with Dr. G.'s views; more were inclined to think better of the drug than he, none asserted it to be a specific.

Trichinosis on the School Ship "Cornwall."—It is now stated that the supposed outbreak of trichinosis on board the "Cornwall" was not trichinosis at all. Dr. Colbold wrote a letter to the *Times*, denying that the epidemic was trichinosis, and is responsible for the assertion. His reasons, it must be confessed, are strong, and he is high authority. The announcement places some of the English medical journals, which accepted the conclusions of Mr. Power without reserve, and commented on the outbreak at great length, in an unpleasant position.

The Annual Meeting of the American Society of Microscopists will be held at Detroit, August 17, 1880.

Vaccination in France.—A bill has been introduced into the French Chamber making vaccination compulsory.

Medical Practitioners in France.—The proportion of medical practitioners to the population has been declining in France as well as in England and Wales, of late years. In France in 1846, there were 51 medical practitioners to each 100,000 of the population; in 1866, this proportion had declined to 48, and in 1876 to 40. This decline is chiefly among the "officers de santé." The cause of this decline in France is ascribed to the law which prevents the doctor from dispensing his own medicines. The professions of medicine and pharmacy are kept entirely distinct, to the great inconvenience, often, of medical men and the public.

Discussing Charity.—The tenth annual convention of the County Superintendents of the Poor, of this State, recently met in New York. The most important topic discussed was that of establishing a Bureau of Labor and Charities in every large town in the State. Such institutions have been in successful working in Syracuse, Poughkeepsie, and other places. A resolution was passed endorsing the system.

Pilocarpin as a Remedy for Baldness is gaining reputation among the laity. Stories of its virtues are going through the public press.

Steamers for Interstate Quarantine.—Four small, swift propellers are now being built at Pittsburg. They are rapidly approaching completion, and will soon depart for the South, where they are destined to play an important part in the sanitary condition of the Mississippi Valley, during the coming and subsequent summers, in carrying on a campaign against the spread of yellow fever. The boats were ordered by the National Board of Health. They will distribute provision and medicines to infected cities, and can be turned into hospitals. The flagship of the fleet is the *Benner;* she is named after the late Lieutenant Henry A. Benner, whose life was sacrificed during the last yellow fever visitation. Her cabin is devoid of staterooms forward, and the space, 14 by 50 feet, is to be taken up by thirty iron cots for patients. Aft of this space are two handsome apartments for the two doctors on board, and there are also accommodations for a crew of eight or ten. This vessel is for duty as a patrol, and for furnishing supplies to the following stations: Cairo, Memphis, and Vicksburg. As adjuncts to the *Benner* are three small, swift steel propellers—the *Picket*, *Lookout*, and *Patrol*. Each is 36 feet long, 7 feet beam, and 3½ feet hold. The boats must prove very fast. Their duty is to overhaul passing steamers, and to see that such are observing quarantine regulations.—*Nautical Gazette.*

Dr. Stephen Smith, of the National Board of Health, has gone South to Memphis and other places on a tour of inspection.

Breathing under Water.—Mr. Fleuss's invention, by which he is able to stay under water for one or two hours without any pumping in of air from outside, and without taking down any cumbersome apparatus with him, has at last been explained. His dress is much like that of ordinary divers, but the helmet has no connection with anything above. He takes down in the helmet a supply of compressed oxygen; this is allowed to escape slowly, and is diluted with the nitrogen in the case; the exhaled carbonic acid is breathed into a tube which passes into caustic soda, where it combines and is made innocuous. This process can be kept up for a long time without any inconvenience. The first time Mr. Fleuss made an experiment with his invention, he remained under water for over an hour.

The Registration of New York Physicians.—The books for registration under the new law of this State will be opened about the middle of July. As there will probably be about 3,000 persons to register in this county, within the ninety subsequent days, it would be well for physicians not to put the matter off too long.

Change in the Duties of the Censors of the County Society—The new registration law takes away most of the duties heretofore belonging to the censors of our County Society. In order not to have the office a sinecure, as well as for other reasons, it is proposed that the by-laws be so amended that the censors may be given the duty of watching the county registration books, and seeing that registration is properly carried out. The proposed action might well be imitated by other county societies.

Heidenhain's Theory of Mesmerism.—The distinguished physiologist, Prof. Heidenhain, has been investigating the subject of mesmerism, so called, and gives the following view of its pathology. The gray matter of the cerebrum (gray matter of the convolutions) is exhausted by certain fatiguing procedures, and thereby consciousness and will, as well as the regulation of reflex action are suspended. As a consequence, certain habitual motions (walking, speaking, writing) take place upon peripheral irritations, and sensual impressions in general, the excitation passing inward to the vasal ganglia and thence, avoiding the cortical region, to the periphery again. Naturally, through these channels, will such responses be obtained as are most frequently traversed by impulses, centripetal and centrifugal; hence, many will readily exhibit special movements in imitation, which in the case of others will not appear, or at least will be imitated with difficulty. Prof. Heidenhain finds three or four persons out of ten who are "mediums;" these do not necessarily belong to the class of hysterical, anæmic, or nervous.

There are certain special regions, such as the nape of the neck and the epigastrium, if these are stroked or excited with electricity, the patients begin at once to speak.

The Rot in Sheep has been very prevalent in England during the past few months. Sheep have died by thousands from it. Measures have been taken to investigate its cause and means of prevention.

The Free Swimming-Baths of New York.—These baths, which number half a dozen, are having an immense patronage. About 160,000 persons per week use them, one-third being females. The boys are particularly happy over their opportunities of free ablution. They at first made numerous attempts to go from one bath to another. These attempts developed the interesting physiological fact that bathing produces a prolonged tetanus of the peripheral circulation of the nose; if a boy is found to have a cold nose, therefore, he is at once rejected as being a "rounder."

Vacation.—This is the time for physicians to remember Sir Henry Holland's theory, that a doctor will increase his practice if he takes a month's vacation every year.

Co-operative Stores and Provident Dispensaries.—One of the Co-operative Store Associations in London has united a provident dispensary, a sick, benevolent, and burial fund to its other work, also a savings bank.

A New Morgue.—Plans for a new morgue at Bellevue Hospital have been drawn, and the erection of the building is probable.

Dr. Grant Bey.—Dr. Grant, an English physician who has for some years been practising in Cairo, and who has done much to give Egypt a reputation as a health resort, has been given the rank of miralay, or bey.

A Histological Laboratory is to be established in the Medical School of Paris under the direction, probably, of M. Cadiat, who is well known in France for his microscopical labors. This new laboratory is intended to be a substitute for the proposed chair of pathological anatomy which met with so much opposition.

The Chian Turpentine Cure for Cancer.—Mr. John Clay reports that he continues to get very satisfactory results from the Chian turpentine. The drug is being tried in some of the London hospitals. The trouble seems to be that no one but Mr. Clay is able to get hold of the right kind of Chian turpentine.

Another Pair of "Siamese Twins."—At Instow, North Devon, England, a woman has given birth to two females joined, or rather incorporated together, from the mammæ down to the abdomen. They are healthy, and perfect in every other respect, having each a head, a trunk, and two upper and lower extremities.

Seats for Shop-Girls.—Ninety houses in Dublin, within the past year, have provided seats for their shop assistants.

Lister.—The Degree of D.C.L. has recently been conferred on Joseph Lister, F.R.S., by Oxford University.

Hospital Sunday in London.—The annual collections for the hospitals and dispensaries of London, were taken up on June 12th and 13th. These hospital Saturday and Sunday collections have now been made for seven years, and form an important means of support to many of the 128 institutions for which they are intended. The depression in trade has embarrassed the work of many London hospitals, so that there are at present only 3,232 beds in daily use and available for the indigent sick. This gives but one bed to 1,237 of the population. The actual number of beds in the London hospitals, benefited by the Hospital Sunday Fund, is 5,531.

Dr. Amidon's Essay on Cerebral Localization, in which he endeavored to locate cortical motor centres by recording the rise of temperature over the skull during voluntary muscular exertion, has been discussed by the Paris Biological Society. M. Paul Bert complimented the author, and referred to his own researches upon the subject. Employing a thermo-electric pile with all necessary precautions, he found that talking in a loud voice caused an elevation in the temperature in the left anterior frontal region. He also found a rise in temperature in children, in the frontal region, at the moment of waking.

In examining the lateral regions of the skull over the motor centres, he was never able to observe any change in the temperature on muscular exertion. He suggested that the muscular exertion in the limbs may have been accompanied by contractions in the muscles of the head sufficient to cause the local rise in temperature.

It will strike the reader that M. Paul Bert, in discussing Dr. Amidon's paper, talked more of what M. Bert had done than of anything else. His explanation of Amidon's results is very far-fetched, to use the mildest term.

Milk as a Cause of Tuberculosis is the subject now being discussed among pathologists and sanitarians. The possibility of danger from tuberculous cows was first brought prominently forward by Mr. Fleming, in 1874. He then gave evidence to show that the milk of tuberculous cows could produce the disease in other animals, such as pigs, to whom it was given. This gentleman has recently read a paper on the same subject, bringing fresh facts to bear upon it. He stated that tuberculosis is on the increase, and that nearly five per cent. of cows are affected by it. It is especially prevalent among dairy cows.

According to Cohnheim's latest views and experiments, endorsed by Friedleinder, the intestinal tract is liable to direct infection through the agency of diseased cow's milk. This leads to phthisis mesenterica, so frequent in children. Adding thus the theoretical views of Cohnheim to the facts given by Fleming, and there is good cause for paying close attention to the subject, and perhaps keeping supervision over our dairies and slaughter-houses.

Medical Reform in France.—The doctors of Marseilles and the surrounding districts have sent a petition to the National Assembly asking for a number of changes and reforms. They beg that the distinction between doctor and "officier de santé" be now kept up, but that any "officier" be allowed to have the degree of doctor of medicine after seven years' practice, and the presentation of a thesis. They also ask for new regulations regarding the licensing of foreigners to practise medicine; they assert that medical expert testimony should be better paid. Finally, they urge the creation of a medical council of discipline, to be intrusted with maintaining the tradition, honor, and dignity of the profession.

Remarkable Course of a Bullet in a Gunshot Wound of the Chest.—Dr. W. C. Morse, of Eldora, Iowa, sends us a curious history under the above head. He was called last December to see a young lady who had attempted suicide by shooting herself with a revolver. A wound was discovered 3 inches above the left nipple and 2¾ inches to the left of the sternum. There was no wound of exit; a probe, passed in for two inches, showed that the direction of the bullet was upward and inward, so that the point of exit should have been, if the ball had continued its course, about the middle of the spine of the scapula. There was much dyspnœa, but only a little hemorrhage. The patient continued in tolerably good condition until the fourth day. She then complained of pain in the left side. Examination revealed the presence of the ball between the 9th and 10th ribs, and about 7 inches from the spinous process of the 9th dorsal vertebra. It was easily removed by an incision, and the patient made a good recovery.

Red Perspiration in the Axilla.—The same writer, Dr. Morse, says in regard to red perspiration in the axilla, that the cases of this condition are very common. Few, if any, fleshy people are exempt, although it is not by any means confined to this class. The axilla is seldom inhabited, he adds, without the hairs of the pubis being similarly affected. Its chief cause is lack of cleanliness, and the trouble is easily cured by means of mercurial ointment, compound zinc ointment, or carbolic acid soap and water.

The Lithophone is a new instrument recently presented by Dr. Jonathan Langhbert, at the Paris Academy of Medicine. It is constructed somewhat on the plan of Sir Henry Thomson's instrument. By it the slightest hard deposit in the bladder can be at once distinguished.

The Fasting Man.—Mr. H. S. Tanner, of Minneapolis, Minn., began a forty days' fast in this city June 28th, at 12.30 p.m. He failed to make arrangements with the Neurological Society, considering their conditions too exacting. He placed himself under several eclectic physicians, who undertook to watch him and keep account of his physical condition. On July 7th, the eighth day, he was said to have eaten nothing, and had apparently only gargled his mouth at intervals with water, drinking none. He had lost about fifteen pounds of flesh; his pulse was 77, and had been, at times, faster. It was pretty strong. The temperature and respiration were normal. The general physical condition appeared good. Mr. Tanner walked about the room occasionally, and conversed freely. Assuming that he had not taken any food, his condition was remarkable. It is unfortunate that under present circumstances the results will probably not be accepted by scientific men.

The Anglo-Indian Medical Service.—Much alarm was created last winter by the issuing of an order which cut off the heads of the Indian Medical Service, and seemed the beginning of an attempt to destroy it as a separate department. Indian and English journals were filled with protests against the possible injustice and calamity. The Indian Government, after keeping its medical officers in suspense for four months, has at last issued another order by which, in deference perhaps to public sentiment, the Medical Service has been partly reorganized. It makes the Service distinct and independent as before, but changes the classes of officers. On the whole, the order is a tolerably satisfactory one and greatly different from what had been expected. There is peace again.

Sanitation in Fashion.—A number of drawing-room lectures, on subjects pertaining to health, have recently been given to select audiences in Mayfair, London. Dr. Carpenter, Dr. Richardson, and other prominent men, have delivered the lectures, which have been received with much interest. The last lecture was by Mr. Ernest Hart, on the subject of "The Doctor in the Kitchen." Mr. Hart condemned strongly the excessive "meatiness" of the English diet, and advocated the use upon the table of more vegetables and fish. He condemned "roasting," in the English fashion, as an extravagant process, and advocated the use of ventilated closed stoves. He referred, of course, to the American stoves, which English housewives are too stupid to see the advantages of, or too conservative to adopt. Mr. Hart said that English bread is the best in the world. A number of other criticisms and suggestions were given, all of which seemed to please very much the Mayfair ladies.

As to this matter of the "Doctor in the Kitchen," it seems as though the functions of the physician was being extended a little too far. In the endeavor to make us cover every field of usefulness, the medical mind may be spread out too thin for utility. The general practitioner is now expected to be a good physician and surgeon, a competent sanitarian and a dispenser of all kinds of medical charity. It begins to look like cruelty when he is told that he ought to keep an eye on the kitchen, and know more concerning its dishes than the cook. A physician ought to see that his patients are properly fed, and he should know the delicacies that will do for invalid stomachs. But his province is the sick-room, not the pantry or the kitchen. Let him keep out of these except for purposes of private and personal satisfaction. The staff of Æsculapius is bound by two snakes—not by the *cordon bleu.*

The Thirty-Fourth Annual Meeting of the Ohio Medical Society took place at Cleveland, O.: Dr. John A. Murphy, President, in the chair. The session was opened in the afternoon with prayer by Rev. Dr. G. L. Robertson. Mayor Herrick delivered an address of welcome, in which he spoke of the great advances which medical science had made during the present century. After some routine business had been transacted, and a few papers read, the Society adjourned to visit the Cleveland Hospital for the Insane. A number of speeches were here made, including an address of welcome by the medical superintendent, Dr. Strong. On the second day, the regular committees were appointed, and forty-eight new members were enrolled, including one woman.

The Committee on Obituary reported the deaths of seven members during the past year.

Reports of the Special Committees on Progress of Medicine were presented. Eighteen papers were read. The following are their titles: "Diseases of the Nervous System," by Dr. D. A. Morse; "Therapeutics, Past and Present," by Dr. E. H. Hyatt; "Insanity," by Dr. J. C. Kennedy; "Drinking Waters of the Cities of Ohio," by Dr. W. J. Scott; "Cystic Degeneration," by Dr. J. N. Snyder; "Heredity," by Dr. J. H. Clark; "Physiological Action and Therapy of Gelseminum Sempervirens," by Dr. C. E. Beardsley; "Epidemic Diseases of Ohio," by Dr. A. Hurd; "Gynecology," by Dr. T. A. Kenny; "The Possibilities of Perfecting the Human Species," by Dr. C. Smith; "Post-Nasal Catarrh," by Dr. J. H. Lowman; "Non-Malignant Tumors of the Female Breast," by Dr. C. S. Muscroft; "Dysmenorrhœa," by Dr. M. C. Cuykendall; "Laryngeal Phthisis," by Dr. G. T. Whittaker; "Syphilis," by Dr. J. H. Pooley; "Idiopathic Chronic Catarrhal Laryngitis," by Dr. Bernard Tauber; "Progress of Ophthalmology," by Dr. H. G. Cornwell.

The following officers were elected for the ensuing year: President, Dr. E. H. Hyatt; Vice-Presidents, Drs. C. Falconer, J. C. Hubbard, H. J. Donahue, and R. L. Sweeney; Secretary, Dr. Baldwin; Assistant Secretary, Dr. A. C. A. Kirkley; Treasurer and Librarian, Dr. T. W. Jones.

The annual address by the President was a very able one. He referred to the prosperous condition of the Society, and urged the passage of laws establishing a State Health Board, and regulating the practice of medicine. On the third day considerable business was transacted; the most important measure was the appointment of a committee to draft a bill for regulating the practice of medicine. The same committee will present it to the State Legislature and urge its passage. The Society was tendered a reception in the evening by the staff of the Cleveland City Hospital. The Society adjourned to meet at Columbus the second Tuesday in June, 1881.

ARMY AND NAVY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from June 27 to July 3, 1880.

Brewer, J. W., Capt. and Asst. Surgeon. His leave of absence, on account of sickness, further extended three months, on surgeon's certificate of disability. S. O. 142, A. G. O. June 28, 1880.

Bartholf, J. H., Capt. and Asst. Surgeon. Having reported at these head quarters., assigned to duty at Fort Coeur d'Alene, Idaho T. S. O. 103, Dept. of the Columbia. June 19, 1880.

Official List of Changes of Stations and Duties of Medical Officers of the Marine Hospital Service of the United States. April 1, 1880, to June 30, 1880.

Bailhache, P. H., Surgeon. Detailed as Chairman of the Board for the Physical Examination of Officers of the Revenue Marine Service—April 28, 1880. Detailed as Chairman of Board for the Physical Examination of Candidates for Appointment as Cadets in the Revenue Marine Service—May 21, 1880. Detailed as Medical Officer Revenue Bark "Chase," during practice cruise—June 1, 1880.

Miller, T. W., Surgeon. Detailed as Chairman Board of Examiners, to convene in New York June 21, 1880—June 4, 1880.

Long, W. H., Surgeon. Granted leave of absence for ten days from April 16, 1880—April 14. 1880. Detailed as member of Board to select a site for a Marine Hospital at Memphis, Tenn—May 12, 1880.

Fessenden, C. S. D., Surgeon. Detailed as member Board of Examiners to convene in New York, June 21, 1880—June 4, 1880. Granted leave of absence for eight days from June 13, 1880—June 9, 1880.

Sawtelle, H. W., Surgeon. Detailed as Recorder of Board to select a site for a Marine Hospital at Memphis, Tenn—May 12, 1880.

Doering, E. J., Surgeon. Detailed as Recorder of Board of Examiners to convene in New York June 21, 1880—June 4, 1880.

Fisher, J. C., Passed Assistant Surgeon. Granted leave of absence for thirty days from May 6, 1880—April 21, 1880. Detailed as Recorder of Board for the Physical Examination of Officers of the Revenue Marine Service—April 28, 1880.

Godfrey, John, Assistant Surgeon. To report to Board of Examiners for examination for promotion—June 4, 1880.

Brown, F. H., Assistant Surgeon. To act as inspector of unserviceable hospital property at Boston, Mass.—April 13, 1880. To report to Board of Examiners for examination for promotion—June 4, 1889. 1880.

Goldsborough, C. B., Assistant Surgeon. Detailed as Recorder of Board for the Physical Examination of Candidates for Appointment as Cadets in the Revenue Marine Service—May 21, 1880.

Keyes, H. M., Assistant Surgeon. To act as inspector of unserviceable hospital property at St. Louis, Mo.—April 13, 1880.

Mead, F. W., Assistant Surgeon. To act as inspector of unserviceable hospital property at San Francisco, Cal.—April 19, 1880.

Porter, F. D., Assistant Surgeon. Granted leave of absence for fourteen days from July 2, 1880—June 29, 1880.

Promotion.

Fisher, J. C., Passed Assistant Surgeon. Promoted to be Passed Assistant Surgeon—April 2, 1880.

Original Communications.

TRACHEOTOMY IN CROUP:

WITH REMARKS ON

THE PATHOLOGY, DIAGNOSIS, PROGNOSIS AND TREATMENT OF THE DISEASE, AND THE CAUSES OF DEATH IN FATAL CASES; WITH A REPORT OF THIRTY-FIVE OPARATIONS.

By JOHN H. RIPLEY, M.D.,

SURGEON TO CHARITY HOSPITAL; PHYSICIAN TO ST. FRANCIS'S HOSPITAL, NEW YORK CITY.

PART III.

CASE XXVI.—R., male, five years old; had been sick and under the care of Dr. S. S. Jones for five days. At the time I was called by Dr. J. to do tracheotomy, the dyspnœa was extreme; the face and lips were blue and cold, and covered with a clammy perspiration; the pupils contracted; the intellect dull. The veins of the neck were engorged, but there was no glandular enlargement, and no cellular infiltration. No membrane in the nares. The tonsils were small and rather pale, the left being partially covered by membrane. The lungs were everywhere tympanitic on percussion, while the conveyed laryngeal sounds obscured all others. Temperature, 102.8°; respiration, 40; pulse, 152. Drs. Jones and C. J. McGuire assisted in the operation, the former giving ether. This anæsthetic, as always happens in my observations in these cases, increased the dyspnœa, and we were compelled to administer it very sparingly. The trachea was opened quickly and easily, and without accident. An abundance of tough, thin membrane was found lining the trachea, which was stripped off and extracted by means of forceps. When the trachea was freed from obstructing substances as much as possible, the tube was inserted and the external wound closed. The relief was only partial, there being still some epigastric and supraclavicular depression on inspiration, and the respirations remaining a little labored. Half an hour after the operation the pulse was 160, and temperature, 102.4°. I did not see the boy again during life, but heard from Dr. Jones that he died at 7 P.M. the same day, nineteen hours after the operation. His respiration and pulse became accelerated, and his temperature rose to 105°. He lapsed into a drowsy, semi-unconscious condition, in which he remained, breathing with labored effort, until he died. Specimens of the tracheal exudative membrane were seen, under the microscope, to be swarming with micrococci. The urine contained bacteria, granular and hyaline casts, and was thirty per cent. albumen. Many of the hyaline casts were exceedingly small, and twisted and doubled upon themselves. The albumen was as white as a washed fleece.

CASE XXVII.—Van W., a fine boy, five and a half years old, complained of sore throat and loss of appetite, Wednesday morning, Nov. 5, 1878. He was sufficiently well, however, to spend the forenoon in visiting with a neighbor's child living on the floor below. In the afternoon he was too ill to sit up, and the parents sent for Dr. C. J. McGuire. The doctor found him feverish and nauseated, and both tonsils were covered with diphtheritic membrane. He at once instituted an orthodox plan of treatment, spraying the throat frequently with a solution of carbolic acid and lime-water, and giving quinine and iron and stimulants internally with regularity. No special change in the symptoms was noticed until Saturday morning (the 8th), when the boy was observed to be a little hoarse. The same morning he had several mucous stools, which were accompanied with tenesmus. During the day the laryngeal symptoms rapidly augmented, with occasional spasmodic attacks of dyspnœa intervening. At 4 o'clock P.M., when I saw him, dyspnœa was continuous and urgent. There was little cyanosis, but complete aphonia and a toneless cough. The usual suprasternal and epigastric recessions occurred during inspiration. The lymphatics of the neck were not enlarged, nor the cellular tissue infiltrated. No membrane could be seen in the anterior nares, although epistaxis of moderate severity had occurred on the same day. The tonsils were congested, and partially covered with a well-defined membrane, as was also the visible portion of the pharynx. The whole chest was tympanitic on percussion; tracheal and large bronchial râles, both moist and dry, obscured the vesicular murmur on auscultation. Pulse, 130; respiration, 24; temperature, 100½°. Dr. McGuire having obtained the assent of the parents to the operation, we proceeded at once to tracheotomize the boy, Dr. Léon having charge of the chloroform. Dr. W. M. McLaury was also present in consultation, at the request of the family. The anæsthetic acted very slowly, but, as usual, modified the distressing dyspnœa almost immediately. The operation was easy, and all but bloodless. No membrane, and comparatively little muco-purulent matter was found in the trachea. Complete relief. Five minutes after the tube was adjusted the pulse had fallen to 90, the respiration remaining at 24. Vesicular breathing could now be heard over all the chest.

November 9th, 10½ A.M.—Breathing easy and noiseless. Little inflammation about the wound. No swelling of the neck. Membrane on both soft palate and uvula. Pulse, 140; respiration, 24; temperature, 101¼°. Urine acid and non-albuminous. Takes nourishment well. No medicine is being given. The atmosphere of the room is kept at a temperature of 80°, and impregnated with steam. 8 P.M.—Pulse, 130; temperature, 103°.

10th, 10 A.M.—Boy bright and playful. Pulse, 128; respiration, 24; temperature, 101.7°. 6 P.M.—temperature, 103°.

11th, 10 A.M.—Has had a bad night. Cough has been very harassing, and he is quite feeble and exhausted. Pulse, 130; temperature, 103°.

6 P.M.—Pulse, 120; temperature, 103°. Water contains a small percentage of albumen.

12th, 10 A.M.—Passed a poor night. Cough persistent, although sedatives were given to control it. Same general bronchitis exists, but no fine râles and no change in percussion sound. Membrane has mostly disappeared from tonsils and soft palate. Pulse, 140; respiration, 30; temperature, 103°.

13th.—Patient looks quite cheerful, and only complains of frequent cough, which is accompanied with an abundance of muco-purulent expectoration. Urine sixty per cent. albumen. Pulse, 140; respiration, 36; temperature, 103°.

14th.—His general appearance is still encouraging, although the other symptoms are less so. The wound is widely gaping, and its edges thick and of an angry-red color, and the odor from it very offensive. The breathing is easy. The urine to-day contains no albumen. Pulse, 140; respiration, 36; temperature, 103½°.

15th.—Still looks well. Wound begins to look healthy. Had a little free tracheal hæmorrhage last night. Complains of his mouth being torn, which, on examination, is found to be the seat of follicular inflammation, and chlorate of potassa is prescribed for it.

The lungs are generally tympanitic on percussion, but auscultation reveals some small areas, especially of the right lung, over which there is absence of all sounds. At the base of the right lung, posteriorly, bronchial breathing can be heard within a circumscribed space. Temperature, 104°; respiration, 50; pulse, 154.

16th.—Is remarkably bright. Expectoration of muco-purulent matter rather profuse. Temperature, 101°; respiration, 48. The condition of the larynx was tested yesterday by removing the tube and placing oiled silk over the tracheal wound. It was found practically impermeable, and the canula was replaced.

17th.—Condition of the patient very unfavorable. He looks anxious and discouraged, and has refused to take food during the night, and his mother says that what little he has attempted to swallow came out through the tube. A teaspoonful of milk, given for the purpose of testing the reliability of this statement, immediately ran out through the tube without exciting the least cough or other irritation. On examining the soft palate, it was seen hanging down in a helpless condition, and apparently lost to sensation. Having removed the tube, a second trial with milk was had, and this time the greater portion passed into the air-passages, but without exciting cough. Pricking the mucous membrane of the trachea—a large surface of which was exposed to view—with the forceps was not felt by the patient. The respirations are superficial, often sobbing, and very rapid—90 per minute. Pulse. 140; temperature, 104°. To be fed only by the rectum.

18th.—Boy still in a desperate condition. He is restless and drowsy by turns, and slowly failing. Medium-sized liquid râles are heard over both lungs, but the percussion note is not materially changed, except over a small area at the apex of the right lung posteriorly. During inspiration there is epigastric and intercostal recession, which is evidently not due to extension of membrane into the bronchi, as there is no other symptom of such a complication. As agreed upon yesterday, the patient has been fed exclusively by the rectum, but the sphincters are becoming relaxed and the enemata are not well retained. Urine still highly albuminous. Pulse, 160; temperature, 105°; respiration, 90, and still often sobbing.

19th.—Patient is deathly pale, but quite bright. The canula was permanently left out yesterday, and the large, ragged, open wound enables one to look into the trachea and examine its interior surface for a distance of an inch with great ease. Several of the rings are very distinct; the mucous membrane is red and swollen, and sensation is nearly lost. Water swallowed escapes partly at the opening, and partly trickles down the trachea into the bronchi without producing irritation. As the sphincters had become so relaxed that enemata were not retained, an attempt was made by Dr. McGuire and myself to pass a small catheter into the stomach, through which to introduce food. Although this was done with the greatest care and gentleness, the instrument had hardly passed the base of the tongue before the boy coughed violently, made an effort to vomit, then the pupils suddenly dilated, the eyeballs rolled upward, the radial pulse disappeared, and respiration ceased. Manipulation and stimulants resuscitated him, but we did not renew the attempt. Dr. McGuire made faithful efforts to prolong life, resorting to hypodermic injections of brandy, and giving small rectal enemeta, but death from exhaustion occurred about midnight, a termination sad and unsatisfactory to all.

Case XXVIII.—P——, male nursling, one year and ten months old; had been sick ten days with intermittent croup symptoms when I first saw him, and had been treated with a solution of chlorate of potassa and muriated tincture of iron during this time. At this visit I observed that his voice was clear and that the laryngeal obstruction was slight. There was no glandular enlargement about the neck, the tonsils were small and pale, and the fauces generally normal. There was no nasal catarrh. A few moist râles were heard on auscultating the lungs. Pulse, 120; respiration, 36; temperature, 101½°. The following day (Nov. 30th) the symptoms were more pronounced and continuous, and in the evening the dyspnœa became severe.

Dec. 1st, 8 a.m.—The condition of the child is now very grave, and the parents are willing to have anything done that will give it a chance. There is still no membrane to be seen, and the fauces are substantially normal. The lungs are generally tympanitic, except a small area over the left posteriorly, which is dull. Over this space no sounds are heard on auscultation, but over the other portions of both lungs vesicular and tracheal sounds are both heard. Pulse, 180; respiration, 46; temperature, 101°.

Drs. Jones and Hawes assisted me in doing tracheotomy. The child was quite fat, although markedly rachitic, and consequently the trachea was deeply situated. Substantially no bleeding occurred except from the tracheal incision, but from this it was quite profuse. Much purulent matter also welled up from the opening and several small pieces of membrane were removed from the trachea. The relief was only partial, respiration remaining rapid and labored, and the epigastric and suprasternal retractions during inspiration occurring, to some extent, after the tube was inserted and everything cleared.

11 p.m.—Pulse, 150; respiration, 60; temperature, 104°. Discharge from the tube profuse; nurses well.

2d, 6 p.m.—Pulse, 160; respiration, 80; temperature, 105°. Respiratory murmur is normal in pitch, but mucous râles are heard all over both lungs. Resonance on percussion is still exaggerated. The discharge through the canula is still profuse.

3d, 10 a.m.—Baby had several convulsions during the night, and its appearance is very unfavorable this morning. The respirations are still frequent and difficult, the pulse rapid, and the temperature remains at about 105°. Has had some diarrhœa and several attacks of vomiting since yesterday. While both tubes were temporarily removed for the purpose of having them cleaned, the mother, who was holding the baby, allowed its neck to get twisted so as to close the opening, when rapid and nearly fatal asphyxia ensued.

4th.—Baby died at 1 a.m. to-day, suffering greatly from dyspnœa to the end. No membrane was present in either the fauces or nasal passages during the entire sickness, neither was there any infiltration of the cellular tissue or glands of the neck. Steam from a croup-kettle was used almost constantly from the first day that I saw the case, and the iron and chlorate of potassa mixture was continued throughout the whole course of the disease.

Case XXIX.—Burke, a remarkably fine boy, two and a half years old, after having had "a cold" for two weeks, developed hoarseness Jan. 4, 1879. Jan. 5th, at 4 a.m., he had an attack of dyspnœa which lasted a few minutes, subsided without treatment, and the boy then fell asleep and remained easy until morning. During the day he was hoarse, but about the room playing as usual. At night, after falling asleep, his mother noticed for the first time that his breathing was noisy. On the following morning (Jan. 6th), before daylight, he had another suffocative attack, which, like the previous one, terminated after a few minutes, without medication. Through the day he was about the house, although the breathing was continuously noisy and the hoarseness more marked. As the evening advanced he began to be restless and fretful, and dyspnœa slowly developed. After midnight he slept little, being kept awake by frequent paroxysms of dyspnœa.

Jan. 7th.—I was sent for at 8 A.M., and, arriving soon afterward, obtained from the mother the foregoing history. The patient was in an extreme condition; the dyspnœa was painful to witness; the face was pallid and covered with a cold sweat, the eyes partly closed and the sclerotic of a bluish color, the extremities cold, and the senses blunted. Both nares were plugged with inspissated mucus. The respirations, carried on through the open mouth, were 40 per minute; the temperature, 97.1°. The lungs were generally tympanitic on percussion, while on auscultation little could be heard except the conveyed sounds from the larynx. No membrane was seen in the throat or nares. The tonsils were large and congested and the neck appeared a little swollen. With the assistance of Drs. Milne and Hawes, I at once tracheotomized the patient. The operation was simple and bloodless. Although the trachea contained a large amount of muco-purulent matter, we did not find any membrane. The relief was complete. The respirations immediately fell to 28 per minute.

10 P.M.—Respiration, 26; pulse, 124; breathing noiseless. Secretion from tube moderate. To have a milk diet and no medicine.

8th, 10 A.M.—The child has passed a fair night, and is looking well. There is a free purulent discharge from both nostrils, and membrane is seen lining the left; still none in the throat. The breathing being harsh, I poured a teaspoonful of warm water into the tube, which excited violent cough, expelling large shreds of membrane, after which the breathing was easy. Pulse, 140; respiration, 38; temperature, 100.8°.

7 P.M.—Breathing harsh, but not sawing. Neck a good deal swollen and face congested. Does not take food well, but appears not to be suffering. A few mucous râles heard on auscultation, otherwise the pulmonary sounds are normal. Pouring water into the tube temporarily relieves the harsh breathing. Pulse, 136; respiration, 38; temperature, 100°. A sister two years older has pharyngo-tonsillar diphtheria.

9th.—Some improvement. Neck less swollen. Child takes food well and appears bright. Pulse, 160; temperature, 100.4°; respiration, 28.

10th, evening.—The prominent symptoms to-day have been great swelling of the neck, harassing cough with profuse, offensive expectoration, drowsiness, high temperature (104°), rapid pulse (160), and frequent respiration (44).

11th, evening.—This morning the symptoms were a little less unfavorable, the boy having passed a comfortable night, and being bright and disposed to play with his toys; but, later in the day, the respirations became harsh, and "sawing," and labored, and signs of exhaustion were apparent. He is now failing rapidly. Temperature, 105°; pulse, 160; respiration, 44.

12th.—Died this morning at seven o'clock. Autopsy eight hours after death. Present, Dr. S. Whitall. The swelling of the neck, which had existed before death, had partly disappeared. On cutting through the soft parts of the neck and chest in the median line, considerable serum oozed from the divided surfaces into the gash. After removing the sternum, a noteworthy amount of emphysema of the cellular tissue of the anterior mediastinum was observed. The lungs were hyperinflated and bloodless, and did not collapse on exposure. A depressed, horizontal, reddish strip was seen in the upper lobe of the right lung, near the fissure. The larynx, trachea, and lungs were then taken out entire. Several large depressed portions of the parenchyma, similar to the one just described, were found in the right lung, particularly in the upper lobes, and a few in the left lung, mostly at the borders; one of considerable extent in the upper lobe—all posterior. By means of a mouth blow-pipe, these parts were easily inflated, so as to be indistinguishable from the adjoining tissue. The lining membrane of the larynx and trachea was slightly congested, not more marked at those points in contact with the canula. A long, tough, tubular piece of membrane was found hanging loosely in the interior of the trachea, attached only to the left vocal cord. On slitting the bronchi, membrane was found lining those of the right lung as far as the sixth division, and those of the left lung as far as the fourth. It was for the most part loosely attached, some pieces lying free in the tubes. Wherever this membrane was found, the mucous membrane of the parts was intensely congested. Very little mucus or purulent matter was found in the smaller ramifications. The spleen was paler than normal. The kidneys were congested, and the left contained two small, recent, superficial infarctions. The liver was apparently healthy. The other organs were not examined.

The sister recovered without croup complications, and without medicine.

CASE XXX.—N——, a puny girl, two years and six weeks old, had been sick three days with croup when I saw her with Dr. Isaac Oppenheimer, Nov. 18, 1879. She had no swelling of the neck or glands. There was membrane on the soft palate and pharynx —none in the nasal passages. She was very drowsy, and rapidly becoming unconscious from carbonic acid poisoning. Her respirations were rapid and labored, and accompanied by the usual signs of laryngeal stenosis. The pulse was feeble; the temperature 101°. The lungs were tympanitic on percussion. With the doctor's assistance I performed tracheotomy at once. The trachea was reached without difficulty and without hemorrhage, but it bled profusely after being divided, and, at the same time, the child partially returned to consciousness, and began to twist itself about on the table. To these complications was added that of an exceedingly poor light, so that we came very near losing the child from suffocation before getting the tube in. After this was accomplished, the breathing became easy and noiseless. The following morning, November 19th, nine hours after the operation, there was some swelling of the neck, but otherwise the symptoms were favorable. Temperature, 101.5°; pulse, 120; respiration, 32.

20th.—Child died about 3 A.M., having suffered much from dyspnœa since midnight.

CASE XXXI.—J. G——, four years and four months old, had been subject to attacks of spasmodic croup since he was a year old. Six weeks ago he had croupy cough and some dyspnœa for several days, apparently due to acute catarrh of the larynx. For the last two weeks he has not felt well, but nothing definite was noticed until about 4 A.M., Monday morning, March 15th, when he awoke with a croupy cough. Dr. Spor was at once sent for and gave an emetic of turpeth mineral. Although this was repeated several times during the day, with emetic effect, the symptoms progressed and dyspnœa supervened.

Tuesday morning (16th) a large piece of membrane was coughed up, and the breathing at once became easy. Two or three hours later, however, it was worse again, and continued to get more and more embarrassed till 3½ P.M., when I was sent for to do tracheotomy. The respirations at this time were very difficult, the half-conscious child rising up in bed and throwing itself into different postures, vainly seeking some relief from the terrible dyspnœa. The cough was dry and toneless, and the voice gone. The face and conjunctivæ were blue, and the extremities cold. The lungs were tympanitic on percussion, and only laryngeal sounds could be heard on auscultation. Temperature, 100°; pulse, 130; respiration, 30. Drs. Milne, Spor, and Judson were present. While we were preparing for the operation, the boy was seized with a fit of coughing so violent that I feared suffocation, and hurried him to the table; but as I placed him upon it all struggling ceased, and I looked into his face to learn the cause. He very quietly leaned over the table and spit out a large tubular piece of membrane three and a half inches long. It was sufficiently explanatory. The operation was, of course, postponed. He continued to breathe freely until 7 o'clock that evening, when the difficulty again returned.

The following morning I was sent for and found him moribund. Dr. Hawes assisted me in a rapid tracheotomy. After the trachea was opened, a large amount of tough membrane was pulled out, which looked like a bunch of tape-worm links. When the tube had been inserted the features rapidly assumed their natural hue, and his mind became clear. But although the breathing was free and the lungs clear, the respirations remained rapid (42). In the evening the respirations were still 42, but labored; pulse, 180; temperature, 103°. He had had several green passages from the mercury, and had vomited a number of times. Great difficulty was met with in getting the stomach to retain any kind of food. He died on the morning of the 18th, the dyspnœa during the last hours of life being almost as great as before the operation.

Case XXXII.—K., a fine girl, four years old, had been sick five days when Dr. Hawes first saw her, April 3, 1876. He found her with pharyngeal diphtheria and a croupy cough. April 4th. She began to suffer from laryngeal obstruction, which had increased to such a degree the following day as to demand tracheotomy. The glands of the neck were somewhat enlarged, but there was no cellular infiltration. The tonsils were congested and partially covered with membrane. Temperature, 102°. Dr. H. gave chloroform, and assisted me in the operation, which was attended with no accident. No membrane was seen during the operation. Complete relief followed, and nothing of special interest occurred until the second day (April 7th), when the temperature suddenly rose from 101° to 103½°, without any ascertainable cause.

April 8th. Temperature still 103°, but no local trouble.

9th. Eruption of measles has appeared, and child doing well.

11th. Eruption fading, and child bright and playful.

12th. Child still doing well. The larynx is tolerably permeable, but it is thought safer to wait till the morrow before permanently removing the tube.

13th. Dr. Hawes was sent for early this morning, because the child couldn't get her breath. He found her dead. The inner canula was completely plugged with inspissated purulent matter. The stupid parents, although cautioned against leaving the child without a watcher, had gone to bed and to sleep, and left it through the entire night without any attendant. They awoke in the morning, saw the child struggling for breath, and sent for the doctor. No other cause of death could be assigned than that of mechanical obstruction of the tube. There were two other cases of uncomplicated diphtheria on the same floor, that occurred a few days later, and both recovered.

Case XXXIII.—M., four years old, had not been feeling well for nearly two weeks, and had had a supposed nasal catarrh during that time. On March 14th he began to cough croupy, and Dr. E. A. Maxwell was called to see him the following day. At that time there was no laryngeal obstruction. On the 16th he was about the same. On the 17th there was some dyspnœa in the morning, but it did not call for surgical treatment. A small white patch was seen, at this time, on the right tonsil. In the evening Dr. M. asked me to see him, as he thought tracheotomy might ultimately be required, although he himself had not seen him for several hours. Much to our astonishment, we found the boy gasping for breath, extremities cold, face pale, except the lips, which were blue, and covered with sweat, and it looked as though we should not have time to operate before death would ensue. Besides, it was a question as to how much of this condition was due to apnœa. The child seemed to be dying quite as much from exhaustion. I hastened for my instruments while Dr. M. made ready the table. Although I was away only about five minutes, the boy was far gone when I returned. The mouth remaining partly open, the lower jaw was, occasionally, at the rate of from four to ten times a minute, jerked downward by a spasmodic inspiration. The eyelids were unclosed, the pupils contracted, and the eyeballs turned upward and insensible. The pulse was still beating feebly and irregularly. The whole body was cold and cadaver-like. Should we attempt the operation? Dr. M. hesitated, and so did I. Both parents were absent, and while we were hurriedly stripping the clothing from the neck, the grandparents savagely warned us not to cut "that dying child." Dr. M. suggested and gave a hypodermic injection of brandy. Dr. M. said, "If that were my child, I would have it operated on, wouldn't you?" I didn't know. At this juncture the father came in, and Dr. Maxwell said, "Your child is dying; will you have us attempt an operation?" Without a moment's hesitation he replied, "Yes." With Dr. Maxwell and Dr. J. J. Delany, who was also present, assisting, I cut rapidly through the superficial tissues, until I came upon several large veins lying directly in the track of the incision; these were held aside by the doctors, and the trachea was opened without further dissection. Meantime the child had been gasping as though every breath were his last. The dilators being introduced, some muco-purulent matter escaped through the tracheal wound with a feeble expiration. By lowering the head and manipulating the abdomen we got an inspiration, then an expiration, and so, by slow degrees, respiration became irregularly established.

The pulse, too, remained irregular for several hours. Dr. M. had meantime given more brandy hypodermically. After the child returned to consciousness, which occurred about three-quarters of an hour after the operation, an incessant cough set in, and continued for a long time, without apparent cause.

18th.—Passed a comfortable night, sleeping several hours. Pulse, 120; respiration, 26; temperature, 101 2°.

5 P.M.—Sleeping. Has been rather restless during the day, and coughed and expectorated a good deal. Pulse, 118; respiration, 26. Takes food well.

19th.—Urine examined by Dr. Maxwell, but neither casts nor albumen found. Child doing well. Had a good night. Temperature, 100¼°; pulse, 116; respiration, 34.

20th.—Patient still improving. No membrane in the fauces, but there is a free muco-purulent discharge from the nose, and the nasal passages are red and swollen and the central portion of the upper lip is the seat of an irritative eczema. The glands of the neck are not swollen. On removing the tube for cleansing, the larynx was found to be slightly permeable. Pulse, 120; temperature, 100.5°; respiration, 26.

21st.—Some bloody expectoration. Temperature, 101°; respiration, 28.

23d.—An attempt was made to-day to permanently remove the tube, but the larynx was not sufficiently patent. Temperature, 100½°.

26th.—A prolonged attempt to leave the tube out was again made to-day by Dr. M. and myself, but severe dyspnœa supervened after closing the opening for a few seconds.

April 2d.—Prof. Louis Elsberg examined the larynx to day and found the aryteno-epiglottidean folds and the superior vocal cords so swollen as to form a double cushion on either side, nearly meeting in the median line. There was no membrane seen. He recommended the using of some astringent spray, and Dr. Maxwell subsequently applied a solution of tannic acid, glycerine, and water.

April 11th.—Tube removed to-day. Some spasmodic dyspnœa occurred immediately after taking it out, but this soon subsided, and before we left, the wound had so closed that respiration was carried on almost entirely through the larynx.

5 P.M.—Boy suddenly developed a temperature of 103½° without premonition. Dr. M. and myself finding no local lesion to account for the fever, suspected malaria. This was rendered the more probable, as other members of the family had recently suffered from it. Quinine, and, subsequently, Warburg's tincture was given, with good result. The fever was entirely under control by the 16th, and the patient discharged cured on the 18th. No medicines were given to this boy after tracheotomy was done, except a sedative cough mixture during the first twenty-four hours. He pretty constantly inhaled simple steam from a croup-kettle during the first few days, and took stimulants and nourishment freely. An older sister was attacked with diphtheria while he was sick and made a good recovery.

CASE XXXIV.—D., twenty-five months old, although a markedly rachitic boy, had always been fat and healthy, except that he sometimes suffered from attacks of malaria. A week ago the parents noticed that he had a severe coryza, and at the same time he lost his appetite and became peevish. Last evening (April 8, 1880), about 5 o'clock, croupy cough set in so steadily that the father consulted Dr. Malcolm McLean, at the latter's office. Dr. McL., not being well himself, sent a prescription for an emetic of squills and ipecac, which, having been given, afforded temporary relief. About 3 A.M. the following morning, however, the cough got worse, the breathing became difficult, and Dr. McL. was sent for. On his arrival, recognizing the case as one of true croup, he ordered an emetic of turpeth mineral, and sprayed the throat with lime water. After the action of the emetic, which resulted in the expulsion of some shreds of membrane, the breathing was easier. At 11 A.M., when I saw him, the cough was metallic and the breathing slightly noisy, so as to be heard when sitting close to the child. There was slight laryngeal obstruction. The child was drowsy from having been awake during the night. The glands at the angle of the jaw were little enlarged. The voice was pretty clear. Both tonsils were covered with a grayish, gauze-like membrane. No nasal discharge and no membrane in the passages. The lungs were clear. The spleen was enlarged. Pulse, 136; temperature, 102.5°; respiration, 36.

As the child had had previous attacks of malaria, twenty grains of quinine, in divided doses, were ordered to be given during the succeeding twenty-four hours. Also poultices to the neck, and spray and steam inhalations, and brandy and milk by the stomach.

5 P.M.—The boy has slept nearly all day, but the breathing has become more noisy, and the usual signs of laryngeal obstruction are present. The membrane has nearly disappeared from the tonsils. With the mirror we were enabled to see a small patch on the aryteno-epiglottidean fold, and that the interior of the larynx and the epiglottis were much congested, the latter so swollen as to resemble the uvula.

10th, 2.30 A.M.—Stenosis has progressed to such a degree as to imperatively demand an operation. Child very restless; flushed face; loud, stridulous breathing, which can be heard in the hall below, and hacking cough. The voice is not lost, but husky. Lungs tympanitic, but no vesicular murmur can be heard, only laryngeal whistling. Pulse irregular; temperature, 99°; respiration, 48.

Dr. McLean being too ill to be present at the operation, Dr. Hawes assisted me, giving chloroform. The hemorrhage was trifling. Quite a large strip of limp membrane came into the upper angle of the wound after the trachea was opened, but I did not succeed in getting it. No membrane lined the trachea. Five minutes after the tube was in, the respirations were easy, but 45 per minute; temperature, 100°. Not much cough.

10.30 A.M.—Boy restless and does not take food well. Breathes easily. Pulse, 120; respiration, 48; temperature, 101°. Membrane again on both tonsils, and a small strip on the right anterior pillar.

9.30 P.M.—Asleep, breathing easily, but respirations 60 per minute. Very little cough, and scanty discharge from tube. Lungs clear. No nasal discharge. Less membrane on tonsils. Does not retain quinine well, which is the only medicine given. Steam from a croup-kettle has been constantly used from the first.

11th, 11 A.M.—During the night the temperature rose to 102½°, and the respirations to 60. There has also been some dyspnœa, which cleaning the tube mostly relieves. The membrane on the tonsils is now about a line thick, and of a yellowish-white color. Wound looks well and there is no swelling of the neck. More discharge from the tube than yesterday. Breathing a little harsh, but lungs resonant. His general appearance is good but he does not take food well. Temperature, 101¼°; respiration, 46; pulse, 124. To have six grains of quinine at one dose.

6 P.M.—The quinine was retained. Although the boy has been playful and has taken nourishment well since my last visit, his breathing has been noisy and rapid. After cleaning the tubes and giving a bronchial emetic of warm lime-water the breathing became noiseless, and remained so during the hour that I remained with him. He also got bright and playful, and waved a cheerful good-bye when I left. Temperature, 102°; respiration, 58; pulse, 124. A small specimen of urine which I examined contained ten per cent. of albumen.

12th.—The baby has had a pretty fair night and is looking as well as he did yesterday. Temperature, 102.5°; respiration, 38.

6 P.M.—Child in a hopeless condition. Respiration sawing and labored, countenance dusky, commencing drowsiness. Some areas of dulness on percussion. Tracheal and moist and dry bronchial râles heard on auscultation. Temperature, 103.5°; respiration, 60. After all other means of relief had failed, we gave him small doses of morphine, which proved a most satisfactory remedy in controlling the harassing cough, and in inducing quiet and peaceful sleep. He died the following morning at 4 o'clock.

Post-mortem examination twelve hours after death, the body, meantime, having been on ice. Present, Drs. McLean and Hawes. After opening the thoracic cavity, it was noticed that the anterior portion of the left lung in view was distended and bloodless. The right was partially collapsed and of a rose color. Transverse markings of interlobular emphysema were noticed in this lung, some a line in width and nearly an inch long, and others of less extent, mostly in the lower lobes. A few were observed in the other lung also. The lungs, trachea, and larynx were now removed entire. On inspection, the upper and middle lobes of the right lung were of a bluish-red color generally, some parts being of a brighter red. These lobes were firm to the feel and did not crepitate. The lower lobe was greatly distended with air and comparatively bloodless. The whole of the left lung was hyper-inflated and pale. A blow-pipe being introduced through the tracheal opening, the upper and middle lobes of the right lung were inflated perfectly, and without very much force being required. The larynx and trachea were then slit down posteriorly, when the internal face of the epiglottis was found covered by a thick, milk-white membrane, the interior of the larynx congested, and membrane extending from the vocal cords, to which it was rather firmly attached, the entire length of the trachea, and forming nearly a complete lining of that organ. At some points it had become detached, at others it was loosely adherent, while at others, again, it was so firmly adherent that it was difficult to peel it off. The same was true of the bronchi of the right lung to about the fifth division generally. In the left lung the membrane was not so uniformly present in the smaller tubes, but extended equally far in some directions. The mucous membrane of those parts invaded by membrane was much congested, but very little muco-purulent matter was found in the lungs. The thymus gland was large. The spleen measured 3½ × 2½ inches, and was very hard. The kidneys were slightly congested. The liver appeared normal. The pericardium contained about two drachms of clear serum. Nothing abnormal was discovered with the heart. The other organs were not examined.

CASE XXXV.—K., a German boy, four and one-half years old, played in a puddle of water in the street on the third inst., and in the evening was hoarse, and had a profuse nasal discharge. The following morning the hoarseness was much worse, and a doctor was called, who said the boy had diphtheritic croup, and ordered emetics of turpeth mineral. During the succeeding twenty-four hours he took three emetic powders, which produced free vomiting, but gave no relief. At 10.30 A.M., June 5th, I saw him, Drs. Robert Millbank and Clements being also present. He was a thin, delicate-looking boy, and, his parents said, was much subject to bronchitis, and had once had pneumonia. He had also suffered much from earache, and once or twice had had purulent discharges from the right ear. At the time I saw him he had two suppurating onychias on one hand and one on the other—the first two being of traumatic origin. There was a purulent discharge issuing from both nares, the parts were red and swollen, and a small, grayish patch was seen in the left nostril which looked like membrane. Its pultaceous quality, however, ascertained by removing it, made its nature doubtful. The cervical glands were not enlarged. The fauces were normal. By depressing the tongue the most of the epiglottis could be seen, which was red and swollen. No membrane seen. The dyspnœa was marked, and on stripping the chest and abdomen, each inspiration was seen to be accompanied by well-marked supra-clavicular, intercostal and epigastric retraction. The deformed pigeon-breast proved antecedent rachitis. Inspiration and expiration were alike obstructed, and accompanied with stridor. The voice was hoarse, and the cough dry and ringing. Percussion over the left lung was rather dull; over the right tympanitic. The true respiratory murmur was lost, and the expiratory sound prolonged. Moist râles were heard at the base of both lungs. Pulse, 148; respiration, 26; temperature, 101.5°. As there was yet little cyanosis, I proposed to wait a couple of hours before resorting to tracheotomy which had already been consented to by the parents. But, after watching the boy for a few minutes, I was satisfied that the stenosis was rapidly increasing, and decided to return in an hour. This proved to be a wise decision, as, at the expiration of the hour, the breathing was very difficult, and the lips blue. Drs. Milne and A. M. Vance assisted me in operating, Dr. M. giving chloroform. No accident happened. No membrane was found in the trachea, but careful search was not made. Immediately after the operation the breathing became easy and noiseless. Pulse, 120; respiration, 28; temperature, 101°. Vesicular breathing over both lungs. A few mucous and sonorous râles.

5 P.M.—Breathing a little labored, but lungs clear. Patient very thirsty. Pulse, 140; respiration, 30; temperature, 103.2°.

10 P.M.—Pulse, 128; respiration, 40; temperature, 103.4° (Milne).

June 6th, 11.30 A.M.—Patient was quite thirsty during the night, but otherwise comfortable. Had several loose passages, probably from the mercurial emetics which he had previously taken. Discharges from tube profuse, also increased nasal discharge. Some small flakes of membrane seen in the nostrils, and what looks like a small deposit on the left tonsil. Some swelling around the wound. Boy still thirsty but looking well. Pulse, 116; respiration 42; temperature, 101.4°. Urine contains five per cent. of albumen.

4.30 P.M.—More membrane on tonsil. Pulse, 116;

respiration, 36; temperature, 102.4°. Dry and moist râles in left lung.

7.10 A.M.—Sleep was disturbed last night by frequent coughing. Less nasal discharge. Parts about the wound swollen and hard. Membrane gone from tonsil. Looks well. Pulse, 114; respiration, 38; temperature, 102°. Removing the tubes in order to clean them excited cough, and a very large quantity of thick, tough membrane was expelled, two pieces of which each measured one inch and a half in length and a quarter of an inch in width. No air could be got through the larynx, in spite of this expulsion of membrane, thus showing that it came from below.

4 P.M.—Boy has lost his cheerfulness, and is now inclined to sleep. Breathing is not harsh, lungs resonant, mucous and sibilant râles heard on auscultation. Thirst continues. Discharge from tube scanty. Pulse, 124; respiration, 52; temperature, 103.6°.

8.10 A.M.—The boy is no worse this morning. He slept pretty well during the night. Takes nourishment well. Still some nasal discharge. Some membrane on the wound and a great deal daily expelled through the tube. Pulse, 138; temperature, 102.2°; respiration, 52.

4 P.M.—Several small, tubular pieces of membrane expectorated since morning. None to be seen in the fauces. Urine albuminous, and contains also a few epithelial casts. Boy about the room.

10 P.M.—Pulse, 108; temperature, 101.4°; respiration, 46 (taken by Dr. Milne).

9th.—Much improved. Passed a good night. More membrane expelled. The whole wound and contiguous abraded surfaces covered with soft, grayish membrane. Larynx still occluded. Pulse, 80; temperature, 100.5°; respiration, 48. Drs. Milne and Millbank present.

5 30 P.M.—Still about the room, looking well. Profuse expectoration of bloody, purulent matter. Wound looks angry. Pulse, 120; temperature, 102.2°; respiration, 30.

10th, 10 A.M.—Has a good appetite. No membrane expelled since yesterday, that on the wound loosening. As the breathing is pretty easily carried on through the larynx, I remove the tube for the day. Pulse, 106; temperature, 100.5°; respiration, 52. The breathing is shallow.

6.30 P.M.—Father says the boy has been playing about the room most of the afternoon. There is diminished respiratory murmur over the left apex, which is temporarily improved by forcible coughing. Skin hot and dry. Temperature, 103°; respiration, 54; pulse, 114. Dr. Milne, who is attending the case with me, is to see the boy at 10 P.M., and, if the temperature has fallen at that hour, quinine is to be given.

June 11th, 10 A.M.—Dr. M. found the temperature 101.2°, and ordered three grains of quinine to be given every three hours. Boy looks better. Tissues about the wound puckering. No membrane has yet appeared in the fauces. The mucous membrane of the trachea, as seen through the wound, looks red and swollen. The tube, which was replaced last evening, is to-day again left out, probably permanently. A pad of oakum is placed over the wound. Quinine to be continued. Pulse, 98; temperature, 101°; respiration, 42.

6 P.M.—A small area of erysipelatous redness over the right temporal region. Pulse, 110; temperature, 101.5°; respiration, 48.

12th, 10 A.M.—Erysipelas has extended, and now involves the lower part of the right ear, and the affected parts are elevated above the adjoining skin. The wound still shows no sign of granulating. Boy looks bright. No recent change in the pulmonary signs. Pulse, 120; respiration, 80; temperature, 104°.

5.30 P.M.—Boy catching flies. Has been taking five drops of tincture of iron every hour since morning. Quinine discontinued Pulse, 112; respiration, 48; temperature, 102.2°.

13th, 10 A.M.—Erysipelas now involves the scalp of the parietal region, but is fading. Expectoration profuse. Over the lower two-thirds of the left lung, posteriorly, the respiration is broncho-vesicular. Temperature, 103.2°; respiration, 80; pulse, 114.

6 P.M.—Bronchial breathing over nearly the whole of the left lung. Erysipelas unchanged. Boy still appears to suffer very little, sits up in the bed, and plays most of the time. Temperature, 104°; respiration, 80; pulse, 120. Oil-silk jacket and febrifuge mixture ordered.

14th, 10 A.M.—Expectoration of purulent matter has been profuse since yesterday. Erysipelas fading out. Liquid râles heard all over both lungs, especially over the left. Very little bronchial breathing to-day. Late last evening the temperature was 101.4°, this morning it is 102.4°.

6.30 P.M.—Temperature, 103°; respiration, 52; pulse, 104. Urine still albuminous. Since yesterday morning he has taken 36 grains of quinine on the supposition that there might be malaria complicating the other affections.

15th, 10 A.M.—Boy about the same. Wound of a dirty yellowish color—cadaveric. Pulse, 106; temperature, 103°; respiration, 88.

6 P.M.—Lungs full of liquid râles; bronchial breathing again marked over left lung, but disappears to a great extent after coughing and free expectoration. Respiratory paralysis evidently explains some of these anomalous and changeable symptoms. Pulse, 98; temperature, 102.8°; respiration, 44.

16th, 10 A.M.—Appearance is very bad. At two o'clock this morning he was attacked with a sharp pain in the left chest, just above the nipple, and has suffered with it ever since, being unable to sleep or even to take a deep inspiration. A distinct, moist, friction-sound, is heard over the point indicated, while bronchial breathing is very distinct over the rest of the lung anteriorly and posteriorly. Percussion is generally dull over the whole lung. Exaggerated breathing with liquid râles is heard over the right lung. Temperature, 104; respiration, 102; pulse, 140. I directed the parents to envelop the entire chest with a hot flaxseed-meal poultice, and renew it every six hours.

4.30 P.M.—Poultices were applied properly, and have given much relief. Erysipelas, which had nearly disappeared, is bright again. For the first time the boy does not care to sit up. Pulse, 120; respiration, 74; temperature, 103.5.°

17th.—Much the same, but weaker, at 11 A.M. Pulse, 140; respiration 74; temperature, 103°.

10 P.M.—Temperature, 102.3°; pulse, 124; respiration, 80.

18th, 10 A.M.—The patient has been very restless and feeble during the night, and has had several attacks of vomiting. He is now unable to sit up longer than a minute or two at a time. His countenance is of a leaden hue, and the capillary circulation very poor. The pulse is very feeble and remitting, beating at 60; temperature, 102°; respiration, 70. All medicines to be discontinued, and brandy, in drachm doses, to be given every hour, and the boy to be kept in a reclining position.

6 P.M.—Pulse, 140; respiration, 60. The pulse is regular, and stronger than in the morning. Bronchial breathing is still present over the left lung, but a few moist, fine râles are also heard.

19th, 10 A.M.—Boy looks cheerful again. Had a good night. Only a small area of erysipelas remaining over the frontal region. The tracheal wound has a pinkish appearance to-day for the first. Bronchial breathing still present over left lung. Respiration, 50; temperature, 102°; pulse, 140.

6 P.M.—Wound covered with creamy pus. As the brandy now nauseates him, it is to be given less frequently. Poultices to be removed, as the lung appears to be resolving, and the temperature is low. Pulse, 120; respiration, 44; temperature, 101.8°. Urine still contains a few epithelial casts, but no albumen.

20th.—Patient now has some appetite, and slept well during the night, still he does not look as well as he did yesterday. Tongue is much coated, and skin is hot, but I have no thermometer. Pulse, 120; respiration, 50.

4 P.M.—Pulse, 144; temperature, 104°; respiration, 64. No new physical signs. What next? 10 P.M.—Temperature, 104.5°.

21st.—The boy looks pale and feeble, but otherwise his condition is better than yesterday. The wound looks well, and is beginning to granulate and contract. Fine subcrepitant râles are heard all over the left lung. Pulse, 140; temperature, 102°; respiration, 44.

6 P.M.—About the same. Pulse, 120; respiration, 42; temperature, 101.8°. 10 P.M.—Pulse, 120; respiration, 40; temperature, 101°.

July 9th.—This boy died June 26th—three weeks after the operation. From the date of the above report (June 21st) until death, the more prominent symptoms were: high, remitting temperature, not controlled by quinine; physical signs of beginning lung infiltration; diarrhœa; rapid emaciation. In the absence of a *post-mortem* examination, which was curtly refused, I think the immediate cause of death was acute tuberculosis, and have so tabulated the case.

The subjoined table exhibits the results in the preceding cases:

AGES.	No. of Males.	No. of Females.	No. of Recoveries.	No. of Deaths.
Under one year	..	1	..	1
Between one and two years	4	..	..	4
" two and three years	3	3	1	5
" three and five years	10	6	4	12
" five and seven years	6	2	3	5
	23	12	8	27

CAUSES OF DEATH.

Bronchial croup,	14
Uræmia,	3
Toxæmia,	2
Cardiac paralysis,	2
Accidental plugging of tube,	2
Uræmia and respir. paralysis,	1
Pneumonia,	1
Erysipelas and bronchial croup,	1
Acute tuberculosis,	1

(To be continued.)

TWO CASES OF TREPHINING—RECOVERY.

By WEBB J. KELLY, M.D.,
GALION, OHIO.

WHILE attending my first course of lectures, I distinctly remember visiting the Academy of Medicine one evening, and sitting two hours and listening to a discussion on whether it was best to operate before or after the patient had passed into a comatose condition, in fractures of the skull. Our professor of surgery arose and said: "Gentlemen, if you are going to operate, do so at once." It struck me very forcibly that he was right, and as it has been my good fortune to operate twice successfully, once when the patient was in a comatose condition, and once when he was not, I will give the profession the benefit of my experience.

CASE I.—Charles Yager, seven years of age; American; rather delicate; farmer's son. June 11, 1877, was called, in consultation with Drs. Reed and Bennett, of Iberia, to see this boy. He had been playing in the yard, and, as was afterward ascertained, struck a horse's heels with his hat, when the horse kicked, striking him in the head. He was found by his mother in a comatose condition, which state he was still in when I saw him, four hours afterward. Examination revealed a compound comminuted fracture of the right parietal, at the junction of its articulation with the left parietal and the occipital, with decided compression. I advised an operation, and, after warning the parents of the danger connected with it, proceeded to operate. Chloroform was administered, and, although our light was miserable, we were very successful in elevating the detached fragments without rupture of the membranes. Two of the pieces taken away were quite large, one being two inches long by one and a quarter wide, the other being about two-thirds the size of the former. The patient recovered consciousness immediately after the pressure was removed from the brain, and was able to recognize his parents. The wound was left open, and the patient placed in a darkened room in a position to favor drainage. Controlled the circulation with veratrum viride and aconite, and, as he showed extreme signs of anæmia, ordered ten-drop doses of tinct. ferri chlor. An "ice-bag" was applied to his head and kept there until he was out of danger. In seven weeks from the time of injury he walked into my office, feeling well, and to-day he is attending school, and is apparently as bright as if he had never been injured. The aperture caused by the loss of bone is gradually filling in, and is covered with a thick scalp. It seems to me that, in this case, the operation saved the patient's life.

CASE II.—Arthur Nasor; residence Ontario, O.; aged 23 years; farmer; good habits; strong and healthy. While crossing the railroad track he was struck by a freight engine, which was running about twenty-five miles an hour. When the train stopped he was found hanging to the rods above the pilot. When taken down he was able to walk back to the caboose, and when they arrived here, he walked to my office, a distance of eight blocks. Inspection showed a large wound over the front part of the head, from which arterial blood was flowing pretty freely. An examination revealed a compound, impacted fracture of the frontal bone a little to the left of the median line, and at the junction of the articulation of the frontal and left parietal bones. This examination was about 2 P.M., and it was my wish to operate immediately, but, owing to the absence of his friends, I was delayed until 6.30 P.M. He was already beginning to pass into a comatose condition; pulse very slow and full, showing signs of congestion. He was etherized; the wound enlarged and a button removed from in front of the fracture. It was then with the greatest difficulty that I could remove the impacted fragment, part of it having gone through the membranes into the brain-substance itself. The removal of the bone was followed by such an extravagant gush of blood that death seemed inevitable. The patient lay unconscious some ten or fifteen minutes, and then opened his eyes and was able to recognize friends. The bone which was removed was exactly the size of a silver dollar, and the shape of the bolt which drove it into his brain. The wound was dressed with carbolized water, and the patient made to lie in a position to favor drainage. His room was darkened, and the ice-bag applied to his head. What shall I say of the treatment? This and nothing more! The ice was kept to his head night and day, and whenever there was the slightest symptom of congestion he was given a good full dose of Rochelle salts. Not another drop of medicine was given him, and to-day, ten weeks from the day of injury, he is in as apparent good health as he ever was.

Both these patients recovered without a single bad symptom, and when I say I do not agree with Ashhurst when he makes the assertion: "Hence, in impacted fractures, though compound and depressed, I would not advise an operation even if symptoms of compression were present," I think there are others who will uphold me. There are a few points in the after-treatment of trephining cases to which I should like to refer.

1st. Never, under any circumstances, close the wound. If it is small and you have removed any fragments of bone, better enlarge rather than close it. Leave a large opening for drainage, and *keep* the patient in a position to favor that drainage.

2d. Ice to the head. I think in both the above cases the patients' lives were saved by the cold applications. If possible, have it a dry cold. It retards and oftentimes completely wards off the inflammation.

3d. Absolute rest. And lastly, don't, just because they are in danger of having convulsions, coma, etc., dose your patients with prophylactics. Let them alone with the ice to their head and a good free drainage, and there will be better results from the operation.

June 7, 1880.

NECROSIS OF POPLITEAL PLATE OF FEMUR.

SUPPURATION OF KNEE-JOINT—PASSAGE OF DRAINAGE-TUBE THROUGH THE JOINT—RECOVERY WITH MOTION OF JOINT.

By PROF. GEO. E. POST, M.D.,

BEIRUT MEDICAL COLLEGE.

MARIAM, aged 17, Wadi Shahrûr, Mt. Lebanon. Ten months since, there appeared an inflammatory swelling of the lower part of the thigh, involving the knee-joint, accompanied with great pain. The girl says that the abscess opened of itself on the inner and lower aspect of the knee-joint, and was afterward punctured on the outer and upper aspect of the joint, opposite the exterior border of the popliteal space. She says that much matter came out. On the 15th of November, 1879, she came to St. John's Hospital with a swollen and stiff knee, and sinuses in the positions mentioned above. The joint was tender on pressure, and a probe passed from one sinus to the other traversed the joint, touching dead bone in its passage.

Soon after her entrance the two sinuses were enlarged by incisions sufficiently to allow of the introduction of the finger and sequestrum forceps. The finger, introduced into the inner sinus, passed freely into the joint, and came in contact with the posterior surface of the patella. Two large fragments of bone, constituting the whole of the popliteal plate of the femur, with a part of the cancellated stricture adhering, were removed through the exterior sinus. Two quarter-inch drainage-tubes were then passed from sinus to sinus, traversing the joint, and, during the subsequent treatment, injected several times a day with carbolic solution, one to twenty. The wounds were dressed with lint wet with the same solution. The constitutional symptoms were slight and the discharge moderate. Her condition, which was one of great feebleness at her entry, improved steadily under the use of citrate of iron and quinine. Several months after the operation she had a slight attack of cutaneous erysipelas in the affected limb. Six months from the commencement of treatment she was discharged cured, with the sinuses quite healed, and able to flex the joint fifteen degrees, walking with a slight halt, and in a perfect state of general health. There was no pain or tenderness about the joint, and little swelling.

I have long believed that the chief advantage of the elaborate antiseptic system of Lister consists in drainage and cleanliness. I am accustomed to results as good as those ensuing from the more troublesome procedure, with relief from the fatiguing details, which become impossibilities in circumstances such as those which are inherent in practice in Syria.

Pyæmia and septicæmia are so rare in our hospital, where the essentials of antisepticism (not Listerism) are observed, that our students often finish their studies without having seen a case. In fact, we have had but half a dozen in twice as many years.

DR. JAMES McCREA, of Philadelphia, committed suicide by cutting his throat with a razor, on June 21st. Dr. McCrea was an active member of the City Board of Health and highly esteemed as a physician and a man. He had for some time, however, acted peculiarly, and had been urging that the sessions of the Health Board should be in secret.

PHLEGMASIA ALBA DOLENS FOLLOWING OVARIOTOMY.—G. C. Smythe, M.D., of Greencastle, Ind., writes: "Under the head of 'Medical Items and News,' in the number of your journal of April 10, 1880, you make mention of a case of ovariotomy, published in the *British Medical Journal* by Dr. Alfred L. Galabin, which was followed, upon the fifteenth day, by phlegmasia dolens, in which he claims that this is the first case of the kind ever reported. On the ninth day of February, 1880, I removed an ovarian tumor from Mrs. Julia Hostetter, at Terre Haute, Ind., which was followed upon the twelfth day by phlegmasia alba dolens, from which the patient made a good recovery. The details of this case are published in the *American Practitioner* for May, 1880. I call attention to this case as being the second one of the kind reported."

Reports of Hospitals.

BUFFALO GENERAL HOSPITAL, BUFFALO, N. Y.

Indolent Ulcers and their Surgical Treatment —Bromide of Ethyl.

(Extract from a Clinical Lecture delivered at the Buffalo General Hospital.)

By CHARLES C. F. GAY, M.D.,

ATTENDING SURGEON.

Gentlemen:—No better proof of the intractability to medical treatment of indolent or chronic ulcers could be afforded than by the several patients occupying beds in the surgical wards of this hospital at the present time. There are under treatment ulcers upon one or both lower extremities, varying in duration from three months to twenty years. Lotions and unguents have failed to cure them.

The duration of these ulcers would be regarded as a reproach to surgery did I not believe that patients refuse to yield full assent to such surgical measures of relief as are deemed proper and wise.

In the majority of cases you will find these chronic ulcers associated with varices. Varix holds the relation to them as cause and effect; if we expect to cure them we must treat the veins, and in this hospital varicose veins have been treated for the past few years almost exclusively—and I may add successfully—by eschars produced by the potassa cum calce.

It is found, if the ulcers be not too intractable, that they heal simultaneously with the healing of the eschars.

But these ulcers are not always dependent upon diseased veins; therefore other methods of relief must be practised. Plastic operations have long been in vogue, but we cannot always induce patients to accept the alternative of an operation that appears to them at all formidable. Skin-grafting has been tried with varying results; but I am sorry to be obliged to say, that in my own experience it has been more fruitful of failures than of successes.

John Gay, Esq., Surgeon to the Great Northern Hospital, London, England, published, in 1855, a monograph entitled, "A Memoir on Indolent Ulcers and their Surgical Treatment," which I have read with pleasure and, I trust, profit. The author's treatment consists mainly of incisions, and since so good an opportunity has recently been afforded us, this method has been put somewhat to the test.

This man, J. W——, æt. 45 years, had an ulcer of fourteen years' duration upon his leg, one inch by three inches in diameter, beginning near and above the internal malleolus, and running over the leg anteriorly, which is well represented by the accompanying figure.

The ulcer has been two or three times closed within the fourteen years, during warm weather. The ulcer is associated with varices. Three weeks ago to-day I applied the potassa cum calce over the veins, causing three eschars which have not yet healed. At the same time I made a curved incision, three inches in length and three-fourths of an inch distant from the posterior border of the ulcer, cutting through the indurated integument and subcutaneous fascia.

The principle involved in the treatment is the same as that of the plastic operation, since the incised wound gapes open, and the isthmus of skin is partially drawn over the ulcer. The ulcer of this patient's leg is now closed up in its entire extent, and the question arises as to how much of the cure is attributable to the three eschars, and how much to the incision. So rapid a cure of so large an ulcer could not fairly be placed to the credit of the eschars.

Other cases are, at present, under treatment by incisions alone, and thus far are progressing well, and promise the best results.

Incisions, when practicable, ought to be made upon either side of the ulcer, and of proper distance from the border. In one case under treatment, the incisions were made too near the border of the ulcer, and the strip or isthmus of integument, which was only one-fourth of an inch in width, sloughed away. The incision should be made farther from the ulcer's border. Three-fourths of an inch distant is probably too far away, since the incised wound would be less likely to gape. Incision, probably half an inch from the border, would be about right.

BROMIDE OF ETHYL.

In the case of J. W. the new anæsthetic was administered. It required eleven minutes to bring the patient under its influence, and nine drachms were used. Its odor was very disagreeable, its effect was evanescent. Two drachms had previously put the house physician asleep, and during its administration to the patient, the doctor—who appears to be unusually susceptible to the effects of anæsthetics—came near falling asleep.

Another patient, a very strong man, just as he was coming under the influence of the same anæsthetic, became excited, violent, and unmanageable, sprang from the table, and escaped to his bed.

Progress of Medical Science.

The Guinea Worm.—A very large number of attacks from the parasitic disease known as Guinea worm (*Dracunculus Medinensis*) has lately been officially reported by Mr. Dutt, assistant surgeon in Chouda, Central Provinces of India (*The Brit. Med. Journal*, March 27, 1880.) 178 cases came under Mr. Dutt's notice from one village alone. At the date of the report, 137 of these had been cured, one had died, and 40 remained under treatment. All those who obtained water from a certain muddy well suffered more or less from the disease, while those that were not allowed to touch the well were almost totally exempt from it. According to Mr. Dutt, the worms gained access to the bodies from the habit men had of going to the well and dipping their hands and feet in it, thus allowing the zoösperms of the infected water to come in contac twith the skin. Thus the hands and feet are the parts attacked by the worm, and these were the members affected in all the patients but one, in whom the worm appeared in the abdomen. The reporter adds that in England there need be no fear of this formidable parasite; but in the tropics its ravages are well known and greatly dreaded. As to the treatment, the time-honored method of extraction is still the one most successfully employed at the present day. This is done by winding the exposed or protruded end of the parasite round a small stick of ivory, bone, or wood, or even round a portion of adhesive-plaster, cardboard, or stout paper. Rupture of the worm during extraction must be carefully avoided. From this statement of the mode of infection it will be seen, that the author has taken no cognizance of Cobbold's views regarding this subject. Cobbold, it will be remembered, attributed to Fedschenko the discovery of the true source of the guinea-worm. On page 223 of his able treatise on parasites, we find the following: "Fedschenko showed that the embryos of dracunculi, after quitting the human host, succeed in effecting an entry into the bodies of entomostracous crustaceans belonging to the genus cyclops. Within these intermediary bearers, after twelve hours' sojourn, the embryos undergo a change of skin, attended with subsequent growth. Here they remain to complete their larval development, which takes place within a period of five weeks. At length, as perfected larvæ, they are, together with their crustacean hosts, transmitted to the stomach of the ultimate or human bearer. It is probable that sexual maturity is next acquired within the human stomach, copulation following. After this, the females migrate to the situations in which they are found beneath the skin of the human bearer, whilst the males perish and pass out with the fæces." Hence, it appears that infection takes place by direct transference of infested entomostraca to the stomach by water used as drink. From this it follows that the filtering of water before use would suffice to secure immunity from attacks of the guinea-worm disease.

Treatment of Constitutional Syphilis by Sulphate of Copper.—Drs. Martin and Oberlin gave a brief report on this subject at a late meeting of the Paris Academy of Medicine. The authors treated 50 patients, who showed various manifestations of syphilis, by the copper sulphate. The results were quite satisfactory, the 50 patients all being cured. A comparison of this method was made with the ordinary mercury methods, and it was found that the copper salt proved more efficacious and required less time for its beneficial action than did the mercury salts. The copper was also well borne by most patients; in only one case it produced initial vomiting, followed, however, by permanent tolerance of the drug. In a case of very grave syphilis, when mercury had proved useless, the administration of copper effected a rapid and complete cure. In a few patients, the gums became affected, a greenish tint appearing at their free border. But this cupric gingivitis yielded more rapidly than the analogous mercurial affection ordinarily does. Actual sponginess of the gums was not observed. The salt was exhibited by the mouth in doses of gr. $\frac{1}{16}$—gr. $\frac{1}{6}$ per day. An aqueous solution was employed. External application was also made by adding 5 drachms of the salt to a full bath.—*Gaz. méd. de Paris*, April 10, 1880.

The Obstetric Treatment of the Perineum.—In the above paper Dr. Garrigues, of this city, gives a description of the perineum and external organs of generation, at the same time combating many errors that prevail in reference to the anatomy of the parts. In speaking of lacerations, he says that ergot should not be given until after expulsion of the placenta, as it hastens the delivery before there is sufficient dilatation of the obstetric canal, and may result in laceration. He also advises, as a means of lessening the chances of this accident occurring, that the rectum shall be thoroughly evacuated by an enema of warm water. He advocates the support of the perineum, but not until the presenting part has commenced to dilate the vulvar orifice. In the intervals between the pains a kind of enucleation may be performed by passing the index and middle finger of the left hand into the rectum and pressing against the forehead of the child, thus aiding in the expulsion of the fœtus. When the shoulders are passing through the external orifice, he claims that if the posterior one be pushed backward, or the anterior pulled forward by means of the index finger hooked in the axillæ, perineal laceration may, in many instances, be avoided, as he has many times examined the perineum before delivery of the body, and found no laceration, whereas it existed afterward. When the vaginal orifice is too small, he recommends episiotomy, which can be performed by cutting the constrictor vaginæ muscles on each side. All these methods of procedure, according to the circumstances existing in each case, are recommended by Garrigues, to avoid, if possible, a perineal laceration. If a laceration takes place which is slight, he employs serres-fines, one to three being used. They are applied as follows: the lips of the wound are raised up by means of the thumb and index finger of the left hand, and the serrefines applied with the right, commencing with that portion of the laceration near the anus. They are allowed to remain about four days, when they are removed. He speaks very highly of them, because of the ease with which they may be applied, and also on account of the small amount of pain occasioned by their application. In extensive lacerations, sutures must be applied, and a description of different methods of suturing is given. —*Reprint from Am. Journ. of Obstet.*, April, 1880.

Ethyl Bromide.—Dr. Lawrence Wolff, of Philadelphia, has recently published a paper on bromide of ethyl as an anæsthetic, which, in view of the recent discussions as to its properties, possesses more than an ordinary degree of interest. In describing the manner of preparing the drug, mention is made of a brown acrid liquid remaining after the bromide is distilled off, and which possesses an unpleasant and pungent odor. Twenty drops of this latter liquid was administered to a rabbit, causing symptoms of irritation of the gastro-intestinal tract, and death in eighteen hours. At the post-mortem, the brain was found to be congested, the abdominal viscera were also congested and irritated, and the odor of the liquid was given off. On the other hand, 30 grains of the pure bromide of ethyl had been given to the same animal, previous to this, and no unpleasant symptoms were produced. Several experiments were made with similar results. In one instance in which the rabbit died while under the influence of the pure bromide of ethyl, the brain was found to be in an anæmic condition, and the odor of the ethyl could not be detected in the organs. W. is inclined to believe that death in Dr. Sims's case was due to the presence of the heavy distillate above mentioned; in support of this view he says that, ethyl bromide being a volatile substance, its odor would not probably be detected forty-one hours after administering it. He does not believe that it is unstable in its composition, as some say, he having failed to separate the bromine from the ethyl, after repeated attempts. The following conclusions are arrived at: rabbits, which are with difficulty anæsthetized, can be ethylized with success and without danger to life. When employed hypodermically the ethyl causes an increase in the number of respirations. No greater toxic effects are produced on the system by its use than would result from the administration of ether or alcohol, so that danger from this source need not be apprehended. Also, that while it cannot be positively stated that pure ethyl bromide is *per se* an absolutely safe anæsthetic, yet it is as safe as ether, and more so than chloroform. He recommends that the drug should have a place in the new pharmacopœia.—*Reprint from American Journ. of Pharmacy*, May, 1880.

Caries of the Ankle in Children.—The Results of Expectant Treatment from a Study of Thirty Cases.—Dr. V. P. Gibney has tabulated the results of expectant treatment in thirty cases of the above disease. In fourteen cases the disease manifested itself previous to four years of age; in eleven instances the patients were from four to nine years old, and in five from nine to thirteen years. In fourteen patients the lower epiphyses of the tibia and fibula, as well as some of the bones of the tarsus, were involved; in ten cases the tarsus alone was implicated; in four, the tibia and fibula only; and in the remaining two, the os calcis was involved. As to suppuration, in nineteen cases it was quite profuse, in six moderate, and in five no pus was formed. The length of treatment averaged one year and three months, the shortest being less than six months, the longest nearly three years. The duration of the disease was from one to six years. Several cases were examined at varying intervals after the cure, and in all, the joint affected was found to remain in a state of health. Of those cases, and there were five, in which shortening of the limb was found to exist, it was not more than one inch. The shortening of the foot was as follows: half an inch in sixteen cases, less than one inch in four, none in three instances, and in seven it was not ascertained. In two-thirds of the cases there was no lameness, in seven it was slight, and only in one case was the lameness at all marked. In five cases the mobility of the joint was perfectly restored; in the other patients there was a slight impediment to perfectly free motion in certain directions; in two of these the tibio-tarsal joint was anchylosed, but this was compensated by an increased degree of mobility at the medio-tarsal articulation. The conclusions drawn from the paper are as follows: If a conservative course of treatment be adopted, the joint affected can be saved. Excision of a joint, in children, is rarely ever justifiable. No advantages are offered by partial excision, or passing tents through the joint, more than can be obtained by the expectant plan of treatment. By this method of treatment, although there may be some anchylosis and deformity, the limb is rendered more serviceable than in any other way.—*Reprint from Am. Journ. of Obstet.*, April, 1880.

The Influence of Varicocele on the Nutrition of the Testicle.—In a recent clinical lecture. Dr. J. C. O. Will, of Aberdeen, presented a case of varicocele, which had resulted from an injury to the left testicle. The varicocele was of great size, and the nature of the swelling could be diagnosed without even the slightest manipulation of the parts. The testicle of the affected side was so wasted that it had entirely lost the form usually presented by that organ, and it seemed to be a mere appendage to the diseased veins to which it was attached. After giving some of the opinions advanced by eminent surgeons, Dr. Will said that in all the cases he had met with, where the varicocele had been large, the history had pointed to a traumatic origin. Concerning the therapy, he believed, that in the great majority of cases, the best mode of treatment was the establishment of proper sexual relations. Yet he felt satisfied that cases did frequently occur, for whose relief radical treatment was absolutely called for. The extent of the disease must form our guide in this matter. Operative interference, after palliative treatment had been given a fair and prolonged trial, was recommended under the following conditions: 1, if the varicocele be very large, or increasing; 2, if the testicle be atrophied; 3, if acute pain be complained of; 4, if the patient be disqualified from entering the public service; 5, if the stability of his mental faculties be endangered. This last condition was not a mere fanciful one, and was met with often enough. But he would not advise an operation unless there be real and well-marked mischief. The mere desire of a patient, who suffers from slight varicocele, for an operation should not influence the surgeon in this respect. Greater latitude in the direction of operative interference might be allowed in those cases, where the thoughts of the patient are concentrated—often to the exclusion of all others—upon the supposed serious malady from which he is suffering, than in those where the patients are willing to accept the physician's assurance that slight varicocele is an affection of but little significance or importance.

Thrombosis Arteriæ Coronariæ Cordei.—Dr. A. Wislizenus, of St. Louis, reports the following case of obliteration of one coronary artery of the heart: The patient, a German, thirty-four years old, of strong constitution, had had, a year before, an attack of acute rheumatism, and a second attack one month ago. From the latter he was just recovering, his pulse during convalescence beating at the rate of eighty in a minute. Suddenly, while sitting in a rocking chair, he was seized with collapse. The extremities became cold, the pulse sank to forty per minute, and was feeble but regular. He had no pain, and his intellect remained clear. Examination of the chest showed no sign of exudation either in the heart, lungs, or pleuræ, nor any organic cardiac disease. The pulse gradually fell to eight in a minute. Examination of the heart in this condition revealed first a feeble, but still distinct systole and diastole lasting one second, then a clonic cardiac spasm, with a vibrating sound lasting five seconds, then a quiet pause of two seconds, and so on in the same regular manner. In the absence of all other organic defects, one of the attending physicians, Dr. Hammer, by the method of exclusion, came to the conclusion that such a sudden collapse and gradual sinking could only be explained by a sudden obliteration of one of the coronary arteries of the heart. The patient died on the third day. The post-mortem examination was allowed only on condition that the heart alone should be examined. In the pericardium about a spoonful of serum was found; in the ventricles, quantities of fibrinous coagula; the endocardium and valves were normal, the muscles anæmic. On examining the semilunar valves of the aorta, which were themselves sound, a large thrombus of fibrinous clots and excrescences was discovered in the right sinus Valsalvæ, that extended to the outlet of the coronary artery and completely obliterated it. This complete obliteration in all probability occurred very suddenly.

Tubercular Tumors of the Mammary Gland.—M. Prichet recently observed a case of tubercular mammary tumor, at the *Hôtel-Dieu* (*Gaz. des hôp.*, May 13, 1880), the patient being a woman, aged fifty years. On admission the left mamma was enormously swollen; the appearance of the skin was masked by former applications of tincture of iodine.

It presented numerous small elevations, which had been treated with irritant lotions for the past eighteen months. There was eczema below the breast on both sides. Beneath the integument of the mamma a hard, elastic tumor was felt. It exhibited two principal prominences, which were situated at the external portion of the gland, and comprised about one-half of the whole organ. The inflammatory phenomena rendered the nature of the tumor quite obscure. Antiphlogistic remedies were employed to put the breast into a condition favorable for diagnosis. Several abscesses were opened, and creamy pus escaped. After the inflammation had subsided, the appearances were found to have become considerably altered. The external portion of the left mamma was now the seat of a firm, elastic tumor, about as large as a turkey's egg, and showing three chief lobules, two of which had been incised. Pressure here no longer gave rise to the escape of pus, but was followed by the appearance of a yellowish, somewhat viscid substance, resembling thick lymph. "The tumor is not painful, and presents about the same size it had two years ago. The patient believes it is rather smaller, and this certainly speaks against the cancerous nature of the tumor. The manifest tendency to cicatrization likewise militates against the correctness of such a diagnosis." Syphiloma of the mamma was likewise excluded, on account of the stability of the tumor during anti-syphilitic treatment. Adenoma mammæ was also an improbable diagnosis, and so, finally, caseous tubercular tumor was the only remaining possibility. It was only the rarity of such affections, which justified some hesitation in regard to the acceptability of this diagnosis. In this particular case, however, the strumous condition of the patient, the existing chloro-anæmia, and the physical chest-symptoms, clearly pointed to a disseminated tuberculosis. Mammary tumors of this kind, M. Richet added, resembled tubercular orchitis and cheesy swellings of the epididymis. Removal of the breast was always necessary, and having been performed in this case, a subsequent examination verified the clinical diagnosis.

Rapid Lithotrity with Evacuation.—Dr. E. L. Keyes gives the results of the experience of himself and Dr. Van Buren with this operation. From the numerous cases that are being reported in the medical journals, and from the increased sales of lithotrites by surgical instrument makers, he concludes that the operation is becoming widely adopted, and has already become a part of general surgery. Dr. Keyes believes that this is as it should be, and that litholapaxy is destined to supplant slow lithotrity and lithotomy to a large extent. Litholapaxy is an operation which can be undertaken by the general surgeon, but never until he has performed lithotrity at least once or twice, and thus accustomed himself to the feeling of a lithotrite in a sensitive bladder.

Dr. Keyes bases his opinions on the new operation upon nineteen cases performed in males past the middle age. The following points are discussed:

Injuries to the bladder and urethra.—Injury to the bladder is not of great importance if the bladder is left empty afterward; injury to the urethra, especially its prostatic portion, is much more serious.

Origin of the operation.—The credit of originating the operation is given unconditionally to Professor Bigelow. The tolerance of the bladder to long sittings, and the benefits secured by an early removal of fragments had been understood, but the operation of litholapaxy itself is exclusively the property of Bigelow.

The record of cases operated on by Dr. Keyes shows a mortality of one. In this case the patient was in a bad condition, being sixty-seven years old, and having pyelitis already. The oldest patient was seventy-three, the youngest forty-six. The stones were generally phosphatic. The greatest length of time at any one sitting was eighty-five minutes, the shortest ten minutes. The average yield was four and one-half grains of detritus to the minute; a higher average will undoubtedly be obtained in future. In most cases large tubes were not employed, Nos. 13 and 16 (English) being the usual size.

The complications of the operation were unimportant. Retention of urine occurred in one case, chill and fever in another. There was always a slight fever, and the urine was bloody, as a rule, for several days.

There are no contraindications to the operation, except hopeless maladies of any kind, distortions of the urethra preventing the introduction of instruments, and possibly a very large and hard stone.

Preparation of the patient for operation is very important. If the patient has atony, and his urethra is accustomed to the use of the catheter, nothing more is absolutely necessary, although it is better to put him to bed for a few days, and wash out the bladder with borax and water. In other cases the occasional passage of a sound is advantageous; the free use of some bland diuretic is advisable in all cases. Ten grains of quinine two hours before the operation, and ten minims of Magendie's solution just before the operation, may be given. At the time of the operation the meatus and anterior strictures may be cut, but not deep strictures.

In the operations the Thompson washing-bottle and a Keyes' lithotrite were used.

In the after-treatment, aside from meeting symptoms as they arise, washing out the bladder with a saturated solution of borax is to be recommended. Borax is preferable to carbolic acid, being as antiseptic and less irritating.

Statistics show that up to the present time one hundred and seven cases have been operated on, with six deaths, making a mortality of about five per cent.

The limit of time of a single sitting is placed by Thompson as thirty minutes; Keyes, however, lays down no rule except that the operation should be done as rapidly as possible.—*American Journal of Medical Sciences*, April, 1880.

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Northwestern Dispensary, N. Y.—The twenty-seventh annual report of this dispensary states that 22,469 patients have been cared for in 1879, or 400 less than in the previous year. Of this number, 4,016 were treated at their homes by the visiting physicians. In those classes where there is a decrease, it has been slight, except in the vaccination department, which shows a decrease of thirty per cent. There has been an increase in the classes of surgery, skin, and eye and ear of twenty-six, forty-three, and sixty-five per cent. respectively; the list of new patients in the last service being 917. A Diet Kitchen Association, under the control of ladies, is attached to the institution, to which the visiting physicians refer as of great aid in the care of sick children and consumptives. Donations to the amount of $2,613.50 have been made during the year.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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GEORGE F. SHRADY, A.M., M.D., Editor.

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MEDICAL LEGISLATION DURING THE PAST SEASON.

We have referred at various times, during the past winter, to the medical legislation undertaken or accomplished in the State and National Assemblies. A partial review of this may be of value now, as showing the especial objects which our profession is seeking from the lawmakers, and also the measure of influence which medical councils have in securing such laws.

There are two directions in which the energies of medical men and medical organizations have been especially directed. These are the establishment of State Boards of Health and the regulation of the practice of medicine. Concerning the former, there is but one opinion as to its desirability, and that is a favorable one. We have already shown how the belief in the value of these organizations has found expression practically in the action of State Legislatures. Health boards have been created in Maryland, New York, and Iowa. In addition to this, the laws in regard to the Health Boards of California, Mississippi, Kentucky, and New Jersey, have been amended, so that the powers and duties of those boards, especially of the latter three, are now much enlarged. In Ohio alone, a bill to establish a health board failed. The profession is aroused upon the matter, however, and such failure will not be likely to occur another winter.

Laws regulating the practice of medicine concern us even more nearly than those establishing health boards. That the profession is beginning to feel very strongly upon the subject is shown by the earnest attention paid to it at nearly all the State medical societies, whose annual meetings have recently been held. From these meetings there appears to be a substantial agreement that the practice of medicine should be regulated by law, in some way. But the exact mode is not so easily settled. There are many complications, arising partly from our defective system of medical education, and partly from the fact that the different medical schools must be recognized, no matter how low their scientific standing or how futile their therapeutic methods. It is a fact, also, that such laws as are desired must be framed with great care and carried out with unwearying vigor and watchfulness; otherwise they fail, as they have done in Kansas.

During the past winter, bills to regulate the practice of medicine have been introduced into the legislatures of Massachusetts, Maryland, Iowa, and New York. They failed in all these States except the last. We can say of these failures, however, as of that in Ohio, that they are only temporary. Our medical organizations have for the most part taken up the matter energetically, and we believe that proper laws will, before a great while, be enacted.

There were attempts last winter, in Maryland, Virginia, and Kentucky, to secure a law giving a certain precedence to doctors' bills in the settlement of estates, or the disposition of the property of the defunct. These all failed; in Kentucky, in particular, the bill not only received no favor at all, but was defeated. The idea of enacting such a law is a good one; that is to say, it is founded on a sense of justice to medical men. There is no reason why the undertaker and the landlord should be paid in full, and the doctor be left without a fee. There is, however, a deeply-rooted feeling that the doctor's services establish not so much a monetary as an emotional claim, which can be discharged to a large extent by explosive expressions of gratitude; and until this feeling is much changed we doubt the possibility of bills for medical services ever rising above the legal status of bills for coffins or bills for board.

The subject of the relation between druggists and physicians has been much discussed of late, but it has only reached one legislature, that of California. Here an unsuccessful attempt was made to prohibit druggists from giving or physicians from receiving a percentage on prescriptions. We have before referred to the inadvisability of attempting to regulate by law a matter which is immoral only when viewed in a professional and not in a business light.

The State of Iowa has enacted a law regulating the practice of pharmacy. The same legislature refused to regulate the practice of medicine. Their new law is an experiment, and appears like a piece of superfluous legislation. Whether it succeeds or not, other States will profit by the experience.

There have been a number of minor matters before our legislatures, of more or less medical interest. These need only be briefly alluded to. The establishment of a night medical service in this city is a measure which will be watched with much interest, since its success will lead undoubtedly to its wide adoption. The same may be said of the law enacted in Connecticut, compelling railroad employees to be examined for color-blindness. There has been, also, some legislation in regard to pleuro-pneumonia, and to the adulterations of food, which we need not particularize.

The work of Congress has been conspicuously barren in results. The bill to establish a Veterinary Bureau failed; so also did that to place the Marine Hospital Service on a higher basis. The National Board of Health received about $100,000, which is not so much as it wanted, though more than it at first seemed likely to get. The Board will be enabled to carry on its work, but must give up some of its special quarantine stations. An appropriation for printing the catalogue of the Medical Library was made. The other scientific results of the recent session of Congress must be represented chiefly by an appropriation of $7,500, to investigate the value of sorghum as a sugar-producer; and a somewhat larger sum to enable the country to show plaster-casts of fishes at Berlin.

Our State legislatures have, however, done some very good work. Doctors are learning better every year how to get their influence recognized and their bills made laws. There is strength in organization; this has become appreciated. And there is a surprising efficacy in the knowing just how to manage things, as was shown by the able manner in which the bill to establish our State Board of Health was gotten through the legislature last winter.

As regards political methods, doctors may be classed with the children of light, but they are beginning to learn some of the wisdom which is so potent with the children of darkness.

THE POSITION OF THE DENTIST.

CONSIDERABLE feeling has been excited in England over the views which the *Lancet* has expressed in regard to the professional position of the dentist. That conservative journal has taken the ground that the dentists, or those who hold, as the bulk of them do, a diploma in dental surgery, are not to be considered in any sense members of the medical profession. Furthermore, it is not permitted them to contribute to the columns of the *Lancet*, because they are professionally inferior. This last prohibition was brought about through an invitation which the editor issued to his readers to furnish information upon the subject of the extraction of teeth and putting them back in the jaw. None but medical men, or dentists who had a medical degree or license, were allowed to contribute to the discussion. It appears that the dentists of England have, of late years, become a body of considerable scientific attainments and prominence. A good many write themselves "surgeons practising dentistry," and are rather above the old-fashioned dissyllable which their fathers used. There has been much effort made to show that dentistry is no longer a mechanical trade, but a branch of medical science, which deserves to rank with other specialties, like ophthalmology or dermatology. Although these efforts to elevate the art deserve every encouragement, it will be acknowledged, we think, by most, that the *Lancet* is right in refusing, as yet, to recognize dentistry as a medical specialty. No class of persons has any right to claim membership in the medical profession, or to presume to form any branch of it, until such persons are doctors of medicine themselves. It is in this respect that dentists differ from oculists and gynecologists, etc. The latter must first get their regular medical diplomas. If dentists would also first get such a degree, they could justly claim every equality with other members of the profession; and such equality is, indeed, already granted everywhere. It is a fact, however, that the demand for highly educated dentists is not yet great enough to justify more than a small proportion of that profession from getting a medical degree. The degree of dental surgeon which so many do get in this country insures a good educational training and a fair amount of medical knowledge. It is making the dental profession one which is much more respected, and which is doing excellent scientific work. This diploma in dental surgery, however, is not enough to entitle him to the claim of practising a surgical specialty.

The attempt, in England, to elevate the standard of dentists by law has led to a rather curious result, if we may believe the statements of Dr. Archibald H. Jacob, of Dublin, in the *Medical Press*. He asserts that by this law, recently enacted, 4,806 persons became admitted to the profession of dentistry, of whom only 531 possessed any recognized medical, surgical, or dental qualification. The law gives them the privilege of calling themselves surgeon-dentists, and puts them, officially and legally, on a par with surgeons. Considerable dissatisfaction has naturally been felt.

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REPORT OF ST. JOHN'S GUILD FOR THE YEARS 1877, 1878, and 1879.—The St. John's Guild has had the misfortune to get under a cloud during the past few years. There are said to have been "irregularities," and there certainly has been bad taste in some of its methods of doing business. There can be no question, however, that in spite of this the Guild has done very good work. In the summer of 1879 it took 27,818 children and mothers out on its excursions. An excellent feature of its work is a sewing department. The Guild is trying now to establish a seaside nursery at Staten Island, where, in the language of the report, "the lives of infants may be saved by giving them nature's wonderful remedy for cholera infantum—the ozone of sea-air." This same "ozone of sea-air" has about as much to do with checking diarrhœa as the "dollar of our daddies." Nevertheless the nursery will be a most useful institution, and it is to be hoped that it will be well supported.

Reviews and Notices of Books.

Observations on Fatty Heart, comprising Remarks on the Morbid Anatomy, Symptoms and Diagnosis, Prognosis, Etiology, and Treatment. By Henry Kennedy, A.B., M.B. Dublin: Farmin & Co. London: Baillière, Tyndall & Cox. 1880.

The first opinion that one forms of this book is that the author is a very poor writer and a rather wild pathologist. But with further study these facts grow less prominent and we have to admit that Dr. Kennedy has worked over his subject long and earnestly, both at the bedside and in the dead-house. He writes, therefore, from extensive knowledge, and has really made a contribution to medicine which has a good deal of value as well as originality.

We believe it worth while, therefore, to present some of the facts and conclusions which the author has given. The task is not an easy one, for the author has an exasperating tortuosity of style and delirium in arrangement. We do our best, however.

The book, in the first place, should be entitled "On Fatty Degeneration" rather than Fatty Heart, for the former is the subject which is really discussed. Beginning with *morbid anatomy*, the subject is divided into that of Fatty Growth and that of Fatty Degeneration: most of the observations bear upon the latter division. When fatty degeneration begins to affect the system it is to be found in numerous organs. Thus it appears in the arteries, where its sequence is bony deposit; in the nerves, cord, and brain, where a not unfrequent sequence is serous infiltration, a condition sometimes found in general paresis of the insane; there is sometimes a fatty degeneration of the ganglionic centres and of certain nerves. It is suggested that such affection of the cardiac ganglia may be one of the causes of fatty heart; the author has also found fatty degeneration of the pneumogastric in connection with fatty hearts. There is a rather preposterous suggestion that the cause of the slow pulse in fatty heart may be a degeneration of the right pneumogastric, which Masoin has shown to have the greater inhibitory power. Fatty degeneration may be observed in the voluntary muscles of those who cease to exercise and of the young who are given to drink. Fatty degeneration of the diaphragm is a frequent accompaniment to that of the heart; the intercostal muscles may also be thus affected. Ogle's statistics show that in 100 cases of fatty liver there are 68 cases of fatty heart. With reference more particularly to the heart, the author speaks of the coexistence often of fatty growth and fatty degeneration. He insists strongly that *in fatty disease of the heart valvular disease is exceptional*, there being such complication only in about one case out of five. When there is valvular disease, it is generally with fatty growth, and is confined to the aortic valves. These are thickened and pulpy from deposit of fat, but are smooth and water-tight. Fatty growth on the heart rarely occurs without a deposit of fat elsewhere. Fatty degeneration is a disease of lean persons. It is most marked in the left ventricle where the ruptures occur, and begins on the internal surface, as a rule. The arcus senilis accompanies this sometimes, but is not a sure index of it. There is generally a bony deposit in three places—the coronary arteries, the arch of the aorta, and the cartilages of the sternum. The latter is an important fact, and may often help in diagnosis.

The author discourses at great length upon the *symptoms*. From out of his discursiveness there may be gathered the conclusion that *fatty growth* can be positively diagnosed when, 1st, there is a large, full pulse, beating at the natural standard of frequency; 2d, when percussion shows the area of cardiac dulness is increased, this being due to the deposit of fat; 3d, by the possible presence of a soft murmur over the aortic orifice, occupying the first sound of the heart only; 4th, by the condition of the individual as to his being fat, or becoming so.

As symptoms of *fatty degeneration* of the heart (the whole system being generally involved at the same time), there are found a large number of nervous phenomena due often to serous effusion. The best known of these is the pseudo-apoplectic attacks. This is absolutely pathognomonic, but it does not occur in a large proportion of cases. The patient is generally older than when fatty growth occurs. He is apt to be thin also; indeed, loss of flesh is sometimes a symptom. The arcus senilis, flabby muscles, diminished power of keeping up the animal heat, muscular weakness, pains close to the diaphragm or over the heart, dyspnœa, puerile respiration, are all symptoms indicating fatty degeneration. The pulse in this condition is slow in a certain proportion of cases—about 1 in 10; it may be intermittent; it has also the quality known as "sedateness." Physical examination will show the impulse and heart-sounds to be weak; occasionally the latter have a distinctly musical character. The heart sounds have also sometimes a character of "smallness" which is very noticeable.

The author is confident that the disease can almost always be recognized, and the two forms of fatty affection be distinguished.

In some general remarks, which conclude the author's description of the symptoms, he makes the suggestion that pernicious anæmia and general paralysis of the insane have sometimes fatty degeneration as part of their pathology.

The treatment which is recommended for fatty growth is that for obesity in general: exercise with heavy clothing, a limited, dry diet (and the author considers milk more dangerous than alcohol), fucus vesiculosus and potash in certain classes of cases, and setons, form the basis of the therapeutic measures to be carried out. For fatty degeneration, a careful temperate life, tonics, with alcohol for emergencies, are indicated.

We have given in the above an abstract of only part of the book, which contains much that is instructive and suggestive, together with some things that are very crude.

Lessons in Gynecology. By William Goodell, A.M., M.D., Professor of Clinical Gynecology in the University of Pennsylvania, etc. With ninety-two illustrations. 8vo, pp. 454. Philadelphia: D. G. Brinton. 1880.

This book, its author informs us, is "not a treatise upon the diseases of women, but mainly the outcome of clinical and of didactic lectures delivered to the advanced students of the Medical Department of the University of Pennsylvania." In whatever light Dr. Goodell chooses to regard his collected lectures, the profession will doubtless find in them the able and scholarly digest of matured opinions on many subjects of interest and importance in his department.

How very readable a volume we have before us is conclusively shown by the call for a second edition, scarcely six months after the publication of the first.

The work is divided into thirty-three lessons, treating successively of gynecological instruments, the modes of examination and the various disorders of the sexual apparatus. Lesson IV. contains a good *exposé* of the vesical troubles so frequently complained of by women who have borne children. The following lesson gives a rather inadequate account of fistulæ of the female genital organs. After some remarks about closure of the vulva for incurable vesico-vaginal fistula, tumors of the vulva, and other affections of these parts, we come to Lessons VIII. and IX., which are devoted to a consideration of the causes, the prevention, and the cure of laceration of the female perineum. Metritis and endometritis are next taken up, and then come several lessons on the various uterine versions and flexions. In Lesson XV., on the use of the closed lever-pessary and of the intra-uterine stem-pessary, Dr. Goodell states that, "take it all in all, the very best pessary yet devised is Hodge's closed lever-pessary, or such a modification of it as Smith's." To this we cannot assent. No one pessary is or can be "the very best" for every given case.

Prolapse of the womb and laceration of the cervix uteri are next discussed, and then follows a rather short but interesting chapter on uterine cancer. In speaking of Freund's method of extirpation of the womb, the author admits the small percentage of recoveries thus far reported, but he adds that "in so cruel and so hopeless a disease it is large enough to justify further trial of the operation."

Vegetations of the endometrium, polypus, and fibroid tumors form the headings of the three following lessons, and then comes a good chapter on ovaritis and prolapse of the ovaries. Other ovarian diseases are then described, and their usual treatment explained. Lesson XXX. clearly shows the intimate relation existing between certain nervous disorders, so frequently the subject of complaint on the part of our American women, and ordinary, sometimes very slight, diseases of the womb. The book closes with chapters devoted to practical matters, such as faulty closet accommodations and the like. The final lesson is devoted to a bold and intelligent statement of the author's views concerning "the sexual relations as causes of uterine disorders."

On the whole the book contains but little to criticize. If we should have preferred fewer scriptural quotations, others might, with perhaps equal propriety, have wished for more; if we find more questions suggested than solved, this is probably only owing to the author's judicious abstention from useless theorizings, and pseudo-explanations. There have been, and still are, certain vexed matters in gynecology, as well as in other sciences, which seem to recede from, rather than approach satisfactory solution, as additional light is thrown on them by advancing experience. Dr. Goodell seems to have recognized this fact, for where science fails to give us the key to certain unexplained and, perhaps, inexplicable phenomena, he does not seek to supply the missing link by the substitution of personal dogmas.

Common Mind-Troubles, and the Secret of a Clear Head. By J. Mortimer Granville, M.D., M.R.C.S., etc. Edited, with Additions, by an American Physician. Philadelphia: D. G. Brinton, 1880.

The author of this little work, we are told by the nameless American editor, "has devoted more attention than most physicians engaged in the specialty of treating deranged intellect to the earliest and faintest symptoms of that terrible malady." Notwithstanding this praiseworthy surplus of attention, Dr. Granville has not, in our opinion, succeeded in presenting to the general reading public a very desirable book. Some unsuspecting mortal of perhaps somewhat eccentric habit of mind or body will, by reading this volume, suddenly discover that his peculiarities of character are early symptoms of a deranged intellect. By thus having his attention forcibly drawn to some utterly harmless personal peculiarity or confirmed habit, he may at length convince himself and others that his mind is in truth deranged. This will not be reassuring, and may prove positively injurious.

We can feel no sympathy with this and similar premature attempts to popularize subjects which stand in such need of more extended and more exact knowledge.

Brain and Mind; or, Mental Science Considered in Accordance with the Principles of Phrenology, and in Relation to Modern Physiology. By Henry S. Drayton, A.M., and James McNeill. Illustrated. 12mo, pp. 334. New York: S. R. Wells & Co.

This work upon phrenology, a pseudo-science which has already passed its grand climacteric, contains much that will address itself to the popular fancy. It is a curious example of Aristotelian reasoning, abounding in rules with many exceptions, and yet written withal in a fascinating style.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 20, 1880.

Fordyce Barker, M.D., LL.D., President, in the Chair.

Dr. Frank H. Hamilton read a paper entitled

A NEW REMEDY FOR CHRONIC CYSTITIS, AND OTHER CHRONIC INFLAMMATIONS.

In August, 1875, Dr. Hamilton was consulted by a lawyer, Judge G., aged 63, for chronic cystitis. The patient had always been a man of temperate habits, except that he used tobacco excessively. He had, however, for a long time worked extremely hard, neglecting the care of his health. About a year before consulting Dr. H., he had been obliged to give up his work on account of the cystitis, and to devote himself to its cure. He had tried a large number of remedies, but with no success. When seen by Dr. Hamilton, he was emaciated and weak. He could scarcely travel at all. He had to pass his water every half hour or hour. At times he suffered intense pain in the bladder. His appetite and digestion were impaired. An examination showed that he had no stone nor enlarged prostate. His urine contained about 25 per cent. of pus, with renal casts.

He was advised to drink flaxseed tea for its aperient and diuretic effect; to take a hot bath every night, and to ride horseback every day. The flaxseed tea was soon given up, as it disturbed his digestion; the hot baths were soon discontinued also. The plan of horseback riding was at first protested against, as the slightest jolting always gave him great pain. It was, however, undertaken. At first the horse was walked very slowly. At the end of a month he was able to ride two miles; at the end of two months the pus had disappeared from the urine, and in six months he was completely well.

Dr. Hamilton said that this was not the only case which he had seen benefited by the same kind of treatment. A physician of New York City had suffered for a long time from chronic cystitis and pyelitis. Medicines and rest had been faithfully tried, but with no effect. He finally began drinking flaxseed tea and riding horseback. He was completely cured, but ascribed some of the good to the flaxseed tea.

Another physician with whom he was acquainted had suffered in the same way, and had been cured in much the same manner, though in this case the patient had driven in a carriage more than he had ridden.

Dr. Hamilton was aware that the value of constitutional treatment in chronic cystitis was well-known and had been insisted upon by others. He did not think, however, that the particular form now recommended had been ever before brought forward. From some remarks made by Dr. Gouley he had inferred that that gentleman was aware of its importance, but it was not mentioned in his book.

Dr. Hamilton wished to lay stress on his belief that constitutional causes lay at the bottom of a great many chronic inflammatory conditions, and a knowledge and remembrance of this fact were necessary to successful treatment. Anæmia and disturbances of digestion were often a part of this constitutional vice. Such diseases as chronic conjunctivitis, otitis, bronchitis, pharyngitis, laryngitis, urethritis, and arthritis are examples of inflammations dependent generally on constitutional causes. Not one of these can, as a rule, be cured by local measures. Even a chronic congestion and displacement of the uterus may be relieved by riding in the saddle and attention to general hygienic measures alone.

Dr. Hamilton would not depreciate the value of other forms of exercise and recreation, but he was inclined to consider horseback riding as the best.

In reply to an inquiry whether horseback riding was contraindicated in cystitis with enlarged prostate, he stated that he believed it was.

The paper being open for discussion,

Dr. E. C. Harwood said that, as a personal sufferer from cystitis, he could corroborate Dr. Hamilton's views as to the value of constitutional treatment. Several years ago he was working very hard, and had neglected proper exercise. His urine was examined at that time by a friend, who told him he could not live six months. His treatment, though not exactly like that suggested by Dr. Hamilton, consisted in attention to hygiene chiefly. He ate very freely of grapes, drank a glass of sweet cider every day, and took cod-liver oil. This resulted in a cure. He believed in the horse and saddle, and thought that the opinions in regard to their value, expressed by Dr. Hamilton, were correct.

THE REPORT OF DELEGATES TO THE NATIONAL PHARMACEUTICAL CONVENTION

was read by Dr. Laurence Johnson, and accepted. [A full account of the convention has appeared in a previous number of the Record.]

A paper was then read by Dr. Wm. A. Thomson on

THE PROPHYLACTIC USE OF COD-LIVER OIL.

Dr. Thomson began by remarking that next in importance to discovering a new remedy was the ascertainment of how it acted. This latter, indeed, may sometimes be of more importance, for such discovery may add to our knowledge of the pathology of the disease. Thus, if we knew how mercury relieved syphilis, we should know what syphilis is. There is one class of remedies, however, whose action we are beginning to learn something about. These form the class known as restoratives. They are really only a kind of food, and as starvation is a very common condition, especially after febrile conditions, such kind of medicines is very often needed.

The way in which iron acts may be studied as an illustration of the rest. Iron enters into the composition of the red blood-corpuscles, and is essential to their functional activity. These corpuscles carry oxygen through the system. Iron is therefore a respiratory food. Now, muscular strength and activity is in proportion to respiratory activity, and the extent of respiratory surface. Insects have more proportionate muscular strength than mammals, because they have a larger respiratory surface. And so it is throughout the animal kingdom. When the blood corpuscles, the oxygen carriers, are not sufficiently fed with iron, muscular weakness ensues. Thus, anæmia is a cause of muscular weakness; and the rationale of iron relieving the symptom is quite an evident one.

Our knowledge of the action of restoratives leads us to believe that they are the only drugs which can act as prophylactics. We cannot understand how a purely foreign body can enter the system and prevent disease. We know that we cannot prevent syphilis by giving mercury. We can see, however, that a substance which is a normal constituent of the economy may be given at a time when there is an especial drain on that principle, and thus prevent pathological changes which its diminution or absence might cause. The study of the use and action of cod-liver oil may lead us to conclude that this supplies a proximate principle to the economy, and may be used both to supply and prevent a diminished amount of that substance in the body.

History shows that cod-liver oil has been used from a very ancient date. Its extensive use, however, dates from 1849, when Bennett introduced it as a remedy for phthisis. Being a very complicated body, it was at first thought that its value was due to some of its peculiar chemical constituents. This is, however, hardly possible. Several of its organic constituents, such as the fatty acids, are the result of the chemist's manipulations. The inorganic constituents are so small in quantity that we should have to use homœopathic theories to suppose them to have any practical effect. Another theory is that the special action of the oil is due to its greater diffusibility, this being caused by the presence of biliary salts in it. This, however, is a false inference; for, in the first place, absorption is only one element, and we must explain the action afterward. Furthermore, it has been shown that emulsions of sweet-oil with ox-gall do not act as well as cod-liver oil, although very diffusible; and finally, it has been also shown that the lightest and purest oils, those freest from biliary constituents, are the best. The most satisfactory theory, therefore, is to suppose that the oil is allied in its composition to the highly complex fat of the blood, and that it supplies a natural constituent of that fluid. This theory is supported by the fact that cod-liver oil increases the number of the red blood corpuscles. Now, it has been shown that the corpuscles contain the greater part of the fat of the blood, the proportion as given by some chemists being three in the corpuscles to two in the plasma.

From analyses of the blood of the portal and hepatic vein it would appear that in the passage of the blood through the liver, some of the fat of the serum is incorporated into the corpuscles, and it may be one of the functions of the liver to do this. The relative importance of fat in the blood is shown by analyses. There is double the amount of it that there is of iron.

The next question is, what is the business of the fat in the corpuscles? And here physical laws come to our help. By these, fat is shown to contain a very great amount of stored-up energy. A pound of ordinary tallow, for instance, has more stored-up energy than a pound of coal, or a pound of gunpowder. It contains more energy than albumen also, in the proportion of 38 to 18. The great business of fat, therefore, is to supply force. In the embryo a great amount must be required, and the late Mr. George Lewis was even led to propound the preposterous theory, that the sole function of the spermatozoa was to furnish to the ovum a highly organized form of fat. He based this idea on the fact that spermatozoa are dissolved by ether. Fat bears much the same relation to the tissue-cells that steam does to the steam-engine.

With this view of the function and importance of fat, we turn to see what tissues contain the most of it in their composition. These we find to be the voluntary muscles and the brain. The brain, for example, contains 75 per cent. of water and 25 per cent. of solids, of which latter, 15 parts consist of fat. The nervous tissue uses more fat than all the other tissues put together. Of course, adipose tissue is not to be reckoned in this connection, for it is practically stored-up fat and not a user of it.

Now, in view of this demand for fat on the part of the nervous system, we may study with special interest that period of childhood when the nervous system is growing most rapidly and when the demand for fat is greatest. Between the end of lactation and the sixth year, the brain grows faster than at any other time. By the seventh year the head has often attained nearly its full size. Mothers are sometimes alarmed at the big heads of their children, and think that there must be something wrong about it. During these years the child acquires more than at any other period of his life. His perceptions are quickened, his memory taxed with the acquirement of language and all kinds of knowledge. The brain works better than it ever will again. All this puts a drain upon the system which renders the child peculiarly susceptible to certain diseases. After the ninth year, the muscular system takes a start and its development becomes very rapid.

Now the rapid growth and great functional activity of the nervous system makes a demand upon the food-supply, and especially the fat. These special demands may lead to the impoverishment of other tissues. And those tissues will suffer first which are the least highly organized, and receive the least vascular nourishment. Thus we have resulting the corneal ulcer; then the cartilages degenerate, the epithelium of the skin and mucous membranes develops a depraved or diminished vitality. Scrofulous sores appear. Once establish a sore and the lymphatic glands become enlarged. For it is probable that the scrofulous enlargements of glands are caused by some previous sore with which the lymphatics connect them.

If the above views are correct, then the utility of giving cod-liver oil at this period of life is shown to have a logical basis. And we ought not to wait until the symptoms of starvation appear before giving the oil. The speaker had been in the habit of giving cod-liver oil to healthy children between the ages of two and seven, and he believed with benefit.

The usefulness of cod-liver oil in nervous diseases is also very apparent.

The paper being open for discussion,

Dr. S. Caro said that he agreed with the reader of the paper in thinking that cod-liver oil is of value as a prophylactic, aad that it is to be regarded as a food rather than a medicine. He had known a poor family who were supplied with cod-liver oil through the kindness of a druggist, and who lived upon this to a large extent for a time. A girl in this family, which was a tuberculous one, had been suffering from chorea. While taking the oil she had recovered from it.

In the speaker's native country olive oil was much used as an article of food, and it was very nutritious. In the monasteries it was much used by the monks, especially in times of fasting, and the monks are, as a rule, quite fat.

Dr. Sell referred to the value of olive oil. He thought that this and butter ranked next to cod-liver oil in nutritive properties. He related the case of a female physician who had suffered for a long time from constipation and a whole train of attendant evils. She became too weak and emaciated to study or work. Finally, a diet, of which olive oil was a large part, cured her. Just before the siege of Paris one could see how much olive oil was taken to supplement the scarcity of other food. Dr. S. had found the external use of cod-liver oil with children of value. He also spoke highly of the emulsions of oil with maltine and pepsine or pancreatine.

Dr. Thomson said, in reply to a question by Dr. White, that the best time to take the oil was about half an hour or an hour after meals.

Dr. Richards spoke of the necessity sometimes of having a cheap substitute for cod-liver oil. He had known whale-oil to have been taken with good effects.

Dr. Farnham spoke of the value of cod-liver oil in lupoid affections, especially when it was taken in large quantities—as much, for instance, as two pints a day. He had known of cases which did not get any better under a pint a day, but showed marked improvement when the quantity was doubled. He had himself taken nine or ten ounces a day without any digestive disturbance. It increased his weight very much.

At the close of the discussion, it was announced that $500 had been turned over to the Academy from the estate of Dr. White.

It was voted that the next regular meeting be omitted, and that the Academy adjourn to the third Thursday in June.

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The English Conjoint Examining Board Scheme.—For some years the medical press and a number of the medical colleges of Great Britain have been trying to secure a Conjoint Board of Examiners before which all medical graduates shall appear to obtain their licenses to practice. The delay and uncertainty regarding the establishment of this board has finally led the Royal College of Surgeons to pass a resolution withdrawing from the scheme. It now will endeavor to secure the voluntary organization of such a board among as many colleges as possible. This action of the college is regarded as a severe blow to the original project, and as being unwise and hardly warranted.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 23, 1880.

Dr. H. B. Sands, President, in the Chair.

THE TUBE IN TRACHEOTOMY.

Dr. Jas. L. Little reported a case, with remarks, of tracheotomy for croup, in which the tube could not be removed until four months after the operation.

Dr. G. A. Peters remarked that he had been unable to see any advantages arising from the use of the fenestrated tube; therefore, had not used it. He could understand its disadvantages.

The President remarked that the great advantage claimed for it was that it enabled the patient to speak.

Dr. Peters thought the disadvantages were so great that they could not be overcome by that single advantage.

Dr. Markoe remarked that that advantage was considerable when the patient was compelled to wear the tube permanently. That when the operation was done, for example, for ulcerative laryngitis, it filled so nearly all the trachea that the patient could not speak without closing the external orifice. That was the theory upon which it was used: but he could well see that it might be a source of irritation both by strangulating the granulations in the opening, and by the rubbing backward and forward of the tube. He thought Dr. Little's suggestion was desirable and practicable.

Dr. Peters asked Dr. Markoe if he desired to use a tube as large as the trachea.

Dr. Markoe replied that he had not paid special attention to that point, but had supposed the tubes nearly filled the calibre of the trachea. He did not wish to have the tube fill the trachea entirely.

Dr. Mason—If they do fill the calibre of the trachea entirely, are they not more likely to produce ulceration?

Dr. Markoe—Quite probably.

Dr. L. A. Stimson asked Dr. Little if he thought that the presence of a fenestrated outer tube was sufficient to excite the growth of granulations.

Dr. Little replied in the affirmative. He also referred to a case in which a fenestrated tube produced erosion sufficient to open a vein, and the patient died from hemorrhage.

Dr. F. H. Hamilton remarked that he remembered the report of the case referred to by Dr. Little, and his impression was that a careful autopsy was not made. His suspicion at the time was that it was uncertain whether hemorrhage came from tissues pressing into the fenestra, or from the extremity of the instrument producing some excoriation at a point lower down.

Dr. Keyes referred to two cases in which the patients wore the tubes permanently. Neither tube had a fenestra, and both patients could speak without closing the external opening. One patient was a child three years of age, who wore out three or four solid, heavy tubes. The other patient was an adult male.

Dr. Markoe remarked that he did not wish to favor the fenestrated tube especially, but simply mentioned the ability which it gave the patient to speak as the great reason assigned for its use in cases in which the tube was to be worn permanently. He then referred to a patient who was operated upon in the New York Hospital, wore the tube permanently, and who was made to speak so as to be understood, until he closed the opening with his finger.

Dr. Hamilton remarked that he had always supposed there was more than one purpose in the use of a fenestrated tube; that it was not entirely for the purpose of enabling the patient to speak, but that it offered an outlet, occasionally, for sputum, when it might have become lodged in the external opening. In other words, it was an additional means of escape, which the patient could avail himself of in an emergency. He also thought there was another possible advantage, and that was with reference to the preservation of the integrity of the vocal cords, so that future phonation would not be so much embarrassed by complete disuse of the cords, rendering the voice feeble and husky, as it might be by using other tubes. He supposed that the fenestrated tube had a somewhat double function, and he thought that its advantages were quite equal to its disadvantages, which were somewhat speculative. He agreed with Dr. Little, that, if we could use a small tube, a fenestrated one was entirely unnecessary, but he could not see the special disadvantages of the instrument.

Dr. Markoe raised the question: Is there not another use contemplated in the fenestra in this respect? In most cases the operation is performed for obstruction of the larynx which has come on suddenly and rapidly, and which we hope will disappear if the patient can be kept alive long enough for the removal of the morbid condition upon which the obstruction depends. The fenestra enables us to ascertain whether or not the opening of the glottis is clear, so that the patient can breathe through it, thus affording an indication as to when the tube can be removed. He then referred to a case now in the hospital, in which the patient had been wearing a tube for several months, and every time any attempt was made to remove it there was at once manifest danger of strangulation.

The President remarked that Dr. Little's case possessed special interest because of the existence of granulations which rendered the removal of the tube not only difficult, but dangerous. He had had a similar experience in one case, a case also of successful tracheotomy for diphtheritic croup, occurring in a child three years and eleven months old, the daughter of Dr. Westcott. True diphtheritic croup attacked the tonsil, extended into the larynx, and when he saw the child in consultation, he found the chances of recovery so slight that he did not recommend the operation, and declined to perform it. On the morning following the consultation, the father of the child came and asked him to go and open the child's trachea at once and at all hazards. Dr. Sands went immediately, found the child moribund apparently, but lost no time and opened the trachea below the isthmus of the thyroid gland, and inserted a tube which was not provided with a fenestra. The relief was, as usual, prompt and complete, but at that time he did not expect more than temporary benefit from the operation. The child was exceedingly ill, apart from the tracheal disease, and was not removed from the table for several days. There was no further tracheal obstruction, however, nor did the disease extend into the smaller tubes. There was scarcely any hope of recovery for ten days. The child took three ounces of brandy every twenty-four hours, for a number of days in succession. The operation was done on the 17th of May, and on the 1st of June the child seemed so well that Dr. Sands ventured to remove the tube, without suspecting the trouble which was to follow. Within a minute of the time when the tube was removed, symptoms of asphyxia showed themselves, each attempt at inspiration being accompanied with marked depression of the edges of the tracheal wound, and the situation was so threatening as to call for an immediate replacement of the canula. On the following day the tube was removed, with the same result. The obstruction was seen to be due to the presence of an abundant exuberant granulation which was closely attached to the upper semi-circumference of the wound in the trachea, and the mass was sufficiently large to act as a ball-valve when the tube was removed. The nature of the obstruction having been recognized, it was advised to treat the granulations by making a local application of nitrate of silver in solid stick. The granulations gradually melted away under the effect of the caustic, and finally, on the 20th of June, one day less than five weeks from the time when the operation was performed, the tube was permanently removed. Even then the child's breathing was embarrassed, and the face became a trifle blue; but presently respiration became more tranquil, and the tube was not reinserted. He had no doubt that in the case related the granulations were effectually disposed of by the solid stick of nitrate of silver; because, although some time elapsed between the first and the final removal of the tube, there was a manifest improvement every time it was removed after the use of the nitrate of silver was begun; it could be observed that the mass of granulations was smaller and smaller as examination was made.

The case showed that the granulations might prove to be a serious obstruction when a non-fenestrated tube was used.

As regards the size of the tube, he would say that a small tube was better than one that would fill the trachea. An English surgeon had taken pains to measure the sectional areas of the rima glottidis and the trachea, and had found that the former was always less than the latter; proving that, physiologically, it was unnecessary to have a tube of maximum size in order to allow sufficient air to enter the lungs, and the disadvantages of a large tube certainly were very great.

With regard to the proper time for removing the tube after the operation for croup, he thought attention should be paid to its removal at the earliest moment practicable, for granulations did not begin to grow immediately after the operation—possibly not until two or three weeks had elapsed. Recently he performed an operation upon a child, seven or eight years old, on account of membranous croup. At the time when the operation was performed suffocation seemed imminent, but afterward the child did so well that on the fourth day the tube was removed, its removal not being followed by dyspnœa. Dr. Sands thought that if the tube had been allowed to remain some days, perhaps a week longer, probably the same trouble on account of granulations would have been experienced as occurred in Dr. Little's case, and in the recorded cases of some other observers. Dr. Sands had no doubt regarding the efficacy of nitrate of silver in disposing of the granulations, and of the early removal of the tube in preventing their formation.

Dr. Keyes asked if any member had seen such granulations occurring in an adult.

Dr. Markoe referred to Dr. Buck's case in which the same trouble occurred in an adult, and the granulations were treated as Dr. Sands had mentioned, and successfully. In that case the mass could be seen distinctly as a large ball or flap as the tube was removed.

Dr. Stimson referred to a case of rupture of the aorta into the trachea, in which a bunch of granulations an inch long, and fully one-third of an inch high, was found at the edge of the ulcerated opening. The case illustrated how rapidly such masses might be formed.

The President remarked that it seemed probable the trachea was a place where exuberant granulations were very likely to form. He recalled a case occurring in Bellevue Hospital in which tracheotomy was performed above the isthmus. The patient was an adult woman. A tube was inserted, but no respiration occurred through it. The situation being very alarming, and the patient being likely to die at once, he took a probe-pointed bistoury, and, introducing it into the opening, cut directly downward through the thyroid isthmus and two or three tracheal rings, and then there was free respiration. The edges of the wound were held apart, and, inserting his little finger, he passed it upward into the larynx, which he found completely filled with granulations that had formed about a syphilitic ulcer below the level of the vocal cords and the level of the first opening.

Dr. J. C. Hutchison remarked that he uniformly used Durham's tube, and the great advantage it had was its shape. The end did not impinge against the trachea, and it could be made to change its position. Instead, however, of using the lobster-shaped inner tube, he used a modification, which was much less objectionable than that part of the original instrument. The modification consisted simply of a piece of silver wire so wound that it could be easily introduced.

The President remarked that the tube had a movable collar so that it could be moved, not only in an antero-posterior direction, but it could be rotated, and thus the position of the instrument could be changed, thereby preventing ulceration from pressure. The liability of the tube to escape in consequence of the short length of the vertical piece was perhaps one of its objectionable features.

Dr. Hutchison remarked that he had not experienced any inconvenience in that particular, for he had always watched it very carefully.

PUNCTURED WOUND OF THE SKULL.

Dr. G. A. Peters presented a button of bone removed by a trephine from the skull of a boy 17 years old, who gave the following history: While passing under the elevated railroad something dropped and struck him upon the top of the head. He thought it was a bolt. He was able to walk to the Chambers Street Hospital, a distance of about half a mile from the place where the injury was received, and from there he was sent to the New York Hospital where he came under Dr. Peters's observation. He presented no symptoms, and said that he felt as well as he ever did. On examination a small punctured wound of the scalp was found, so small that it would not admit the end of his finger. It was situated near the crown.

On introducing a probe and making careful manipulation, he felt certain that he recognized a depression in the bone. The patient was etherized and Dr. Peters made a cervical incision, exposed the skull, and found a spot where the bone had been driven bodily in front of the weapon by which he was struck. The external table was depressed over a space about one-third of an inch in diameter. The trephine was used, the skull was very thin, the dura mater was not injured, but in elevating the button a small portion was left behind. That was readily removed, and consisted of a portion of the internal table, about the size of a finger-nail, that had been scaled off and lay loose upon the dura mater. April 13th, Dr. Peters reported that the case had progressed favorably, that no accident had occurred, and that the patient was about ready to be discharged from the hospital as cured.

Dr. Markoe referred to a case, closely allied to that of Dr. Peters, which had the following history: About seven weeks ago he was summoned in great haste to see a young man who had shot himself. He was twenty-six years old, and told Dr. Markoe that, some hours before, he shot himself by holding a pistol near the side of his head and firing six times. After the shooting he called a waiter, told him that he had shot himself, and also told him to go for a doctor. On examination six openings in the integument were found, all above the zygoma, and within a space of the size of a silver half-dollar, except one which was a little below the zygoma. He explored them all, and found that only one of the shots had implicated the skull, and that was one nearly in the centre of the cluster. It had evidently perforated the skull about half an inch from the edge of the temporal muscle, and just below the temporal ridge. The opening was precisely like that seen in Dr. Peters's specimen, and was made by a pistol-ball, calibre 22. In exploring the wounds, he laid open all the space invaded by the different balls, traced them, and removed three.

Another he accounted for by the ecchymosis of the eyelid, and supposed it had lodged in the back part of the orbit. There were, however, no symptoms of injury of the eye. The fifth ball he found just within the muscular substance and just below the coronoid process of the lower jaw, but it was perfectly innocent and gave him no pain. The sixth was the one which he made out had perforated the skull.

The points of resemblance in the two cases were these: after exposing the skull and cleansing the wound, he could see at its bottom the edges of such a piece of bone as seen in the specimen presented Of course, it was impossible to remove that little piece through the hole already made; so, with the rongeur, he gnawed the bone away sufficiently to enable him to get beneath the edge of the depressed fragment and lift it out. It had sharp edges, but, happily, they had not been pressed against the dura mater so as to cut it. The patient had no symptoms at the time, no symptoms afterward, and made an apparently perfect recovery.

Dr. Peters recalled a case in which he trephined by gnawing the bone away, and removed several pieces of depressed bone, both the internal and external tables being involved. He then searched as far as he thought it safe about the edges of the opening with a probe, and could not find anything. Within a few days after the operation the man developed grave symptoms and died.

Autopsy revealed a portion of the internal table about as large as the thumb-nail, and nearly an inch from the apparent fracture. It had been knocked off, had turned up on end, and had sawed into the brain. He removed everything which was apparently fractured, and yet a piece of the internal table an inch away was depressed, and caused the man's death.

Dr. Hamilton remarked that it was a rule, with but few exceptions, that in gunshot fracture of the skull the inner table was more extensively broken than the outer. The law was so general, if not universal, that he deemed it unsafe to attempt to elevate the inner table without resorting to the trephine. He presented the rule as an argument against the use of a rongeur.

Dr. Markoe remarked that the incisions through the temporal muscle in his case were necessarily quite extensive, and must have been much more liberal had he wished to use the trephine.

Moreover, in reply to Dr. Hamilton's argument, he thought as large an opening could be made with a rongeur as with a trephine, and, as he thought, quite as safely. The suggestion with regard to the size of the opening he thought was a good one, but he did not think that Dr. Hamilton's criticism with regard to the instrument was quite sound.

Dr. Peters preferred a rongeur to a trephine when the edges of the opening in the bone could be elevated sufficiently to enable him to begin. He could make a cleaner opening with the rongeur than with the trephine.

Dr. Hamilton said that that answered his objection to the rongeur, if it could be done.

Dr. Markoe remarked that he was very careful to go beyond the piece depressed before attempting to elevate it.

The President asked: What became of the bullet?

Dr. Markoe replied that he supposed it entered the cranium and became encapsulated. He thought it went between the dura mater and the skull. With regard to that point, however, another case was suggested. He was called some years ago to see the son of a physician who had accidentally been shot with a pistol carrying a ball of 22 calibre, in almost exactly the same situation as in his case just related. The fracture was very nearly similar to the one exhibited in Dr. Peters's specimen. About one-third of the bullet could not be accounted for. He supposed that it had penetrated the bone. Moreover, the dura mater was penetrated and he could pass a probe into the brain-substance for a certain distance —say one-third of an inch. He felt perfectly sure that a certain number of grains of the *bullet* were imbedded in the brain; but the boy never had a single bad symptom.

Dr. Stimson referred to a case observed by Dr. Van Buren, in which a boy was struck upon the head with a piece of plank through which a nail had been driven. One end of the nail was buried in the boy's head, and when he presented himself it was sticking out and required considerable force to extract it. There was not the slightest symptom produced.

Dr. Peters referred to a case seen in the New York Hospital, where a fragment of wood had been driven into the brain about one inch through the bones of the skull and was firmly imbedded, but by gnawing away with a rongeur the bone surrounding it, he removed the splinter. The patient recovered.

Dr. Hutchison referred to a specimen which he presented to the N. Y. Pathological Society. It was the brain of a child who upon the fourth of July was shot with a toy cannon, the ball entering the head just behind the right ear. A probe passed in, without hinderance, two inches. The child had no bad symptoms at all. It subsequently died from scarlet fever, and at autopsy it was found that the ball had traversed the posterior lobes of the cerebrum, but he was not able to find the bullet.

Six months subsequently, the brain was examined more carefully, when the ball was found about two inches in front of the point at which it emerged from the brain upon the left side. It had struck the skull, glanced forward, and buried itself in the brain.

Dr. Hamilton referred to the following case: Some five or six years ago he was called to Hartford, Conn., to see a man who had shot himself, or had been shot with a Wesson pistol, and, after receiving the ball in his forehead, walked home, and subsequently began to suffer very moderately from cerebral symptoms. When sitting quietly the activity of the brain was undisturbed. He had slight vertigo, and was unable to walk. The opening in the bone was still free, and he was able to carry a probe, without resistance, into the cranial cavity fully three-fourths of an inch beyond the margin of the opening in the skull. The ball was not discovered. A year subsequently the man was well and attending to business.

COMPOUND FRACTURE OF THE ELBOW.

Dr. Lange presented the specimen, illustrating the separation of both epicondyles of the humerus, and referred to at the last stated meeting. He also presented the patient from whom the specimen was removed.

Dr. Hamilton remarked that the case should not go upon record as a simple fracture of the external epicondyle, but as a separation of the lower epiphysis accompanied by separation of the external epicondyle, and a compound fracture.

With reference to the question, Why a resection? he would say that success in resection depended somewhat upon the extent to which the bony surfaces were removed; for allowance must be made for contraction of the muscles. He thought the boy would not have had so good motion at the elbow if resection had not been practised.

Dr. Lange remarked that another fact which induced him to resect was the contused condition of the portion of bone removed.

The President remarked that, evidently, not too much bone had been removed, because there was no gap between the extremities of the bones.

The Society then proceeded to the transaction of miscellaneous business.

CONNECTICUT MEDICAL SOCIETY

Eighty-ninth Annual Convention, held at New Haven, May 26 *and* 27, 1880.

Wednesday, May 26—First Day.

The eighty-ninth annual convention of the Connecticut Medical Society was opened May 26th, at three o'clock, when the fellows' meeting was held. About sixty fellows were present. The attendance upon the convention is by delegates or fellows, who are appointed by the respective subordinate societies. The convention holds its sessions in the Common Council chamber, City Hall, New Haven. Dr. A. R. Goodrich, of Vernon, presided, his health being sufficiently restored to permit the discharge of the duties of the office. His presence and improved health was a source of great pleasure to the Society. The attendance, though not large, was a fairly representative one, all sections of the State being represented.

The President in his address expressed his gratification at being able to officiate, and invited attention to the past, present, and future relations of the Society. He referred to the important sanitary relations the Society bore the State, and pointed to highly valuable work the Society had done for the State in the past; a part of this work being the shaping of sanitary legislation for the protection of the powerless and the development of the weak-minded; and another part being the origin and promotion of legislation regarding the collection of vital statistics. The address proceeded: "In determining the degree and extent of fostering care and kindly criticisms which may properly be exerted in these directions, we need no volunteer aid and cannot tolerate any foreign influence with our domestic affairs until our own incompetency is clearly demonstrated." Aid or countenance, it was advised, should be withheld from all schemes of doubtful expediency or questionable philanthropy. "The State Board of Health, still in its infancy, deserves to receive the active sympathy and support of every intelligent citizen. It has hopes of a brilliant future in the possibility of conferring upon the commonwealth benefits of inestimable value, and it should at all times receive the hearty co-operation of the Society in its wise efforts to promote, by all lawful means, the public health, and thus increasing, as no other agency can, the value of life and with it the great working capital of the State.

"The progress already made in this country in sanitary science is very pleasing; twenty-three States have already established State boards of health. Iowa, New York, and North Carolina have since our last meeting fallen into line.

"In view of the facts which have transpired in the State the past year, I would call your attention to the free and unlimited sale of poisons, especially those most commonly used for suicide and criminal purposes. This indiscriminate sale should not be allowed in the State. Every safeguard that the law can provide for the protection of life and the prevention of crime should be furnished.

"Preventive medicine, like conservative surgery, will be considered in the near future as affording the highest possible illustration of professional skill.

He commended the action of the legislature in placing the department of vital statistics under the care of the State Board of Health, but mentioned the carelessness in keeping the registers, which are under the charge of town officials, and condemned the manner in which they were sometimes used to give publicity to facts in the history of individuals or families that were recorded strictly for statistical or genealogical purposes, or for the maintenance of inherited rights.

"It should be remembered that these records contain the private histories of all persons who are, or may be, born, married, or dead, in the State, information which the public has no right to possess, and which the State even has no right to publish.

"The present status of medical expert testimony is a reproach to the profession, and it is high time some steps were taken to remedy the most glaring evils connected with this subject. Either consciously or unconsciously the expert becomes the medical advocate of the person by whom he is called, instead of an impartial witness of the facts as best known to medical jurisprudence; and it is to be feared that too often the fee is made contingent upon the amount of damages secured through the testimony of the expert. It too often happens that men are summoned as experts who have no special fitness, either by position or acquirements, upon subjects that require the devotion of a lifework to comprehend and elucidate, much more to decide *ex cathedrá*."

The address, in its concluding pages, asked attention to the "indiscriminate practice of medicine by the ignorant and unqualified, terms applied to impostors and uneducated persons," in regard to which a bill was before a recent legislative body, and which it was thought would have passed had it been suitably amended.

He paid a fitting tribute to Dr. H. M. Knight, late superintendent of the School for Imbecile Children at Lakeville. This institution was originated and established by Dr. Knight, who devoted his life to the cause of these unfortunates. He lived to demonstrate the truth of his ideas and the value of his methods, and had become a recognized authority in that department. His last public work was in superintending the establishment of a similar institution in one of the Western States. He died suddenly, away from home, at a health resort, from a spinal affection. His death was a loss not only to the State, but to the country as well.

Allusion was also made to the death of Dr. B. H. Catlin, of Meriden, a prominent member of this Society, formerly its president. He had also been a vice-president of the American Medical Association. Also to the death of Dr. A. B. Haile, of Norwich, an influential and prominent member of the Society, always zealous for its welfare.

The several points included in the President's address were briefly discussed, and committees were appointed to report at the next convention, as follows:

On Expert Testimony, its Uses and Abuses, the Remedy, etc.—G. W. Russell, of Hartford; S. G. Hubbard, of New Haven; William Deming, of Litchfield.

On Vital Statistics.—M. C. White, of New Haven; W. A. M. Wainwright, of Hartford; A. M. Shew, of Middletown.

On Sale of Poisons.—Rufus Baker, of Middletown; William Deming, of Litchfield; S. H. Bronson, of New Haven.

The committee appointed last year to report upon a set of resolutions which recommended the appointment of commissioners for the insane in this State, defining their duties and powers, and also a change in the law of the State which requires a sworn statement of insanity from one reputable physician only, as requisite for the commitment to an insane asylum, reported as follows:

Whereas, We consider that our information upon the questions involved in the resolutions referred to is not sufficiently extensive to enable us to recommend any decided action at present; we submit the following resolution:

Resolved, That a committee of three, conversant with the history of insanity, should be appointed by the State Convention to investigate the subject of lunacy commissions in other States as well as in foreign countries, their history, aims, and results for the information of the next annual convention.

Moses C. White, New Haven,
N. Nickerson, Meriden,
Gurdon W. Russell, Hartford,
C. A. Lindsly, New Haven,
C. W. Chamberlain, Hartford.

The report was accepted without debate. The expediency of a change in the law regarding commitments for insanity was unanimously conceded. The following were appointed by the President as members of the committee recommended in the preceding resolution: A. M. Shew, Middletown; H. P. Stearns, Hartford; D. A. Cleaveland, Middletown.

Drs. A. N. Bell, of Garden City, and E. C. Seguin, of New York, were elected honorary members.

The committee appointed last year on the recommendation of President Carleton, on the metric system, reported the following resolutions, after a brief but favorable review of the subject:

1st. That the Connecticut Medical Society adopt the international metric system, and will use it in its transactions.

2d. Requests that those who present papers at its future meetings will employ this system in their communications and reprints thereof.

3d. Requests the medical boards of State hospitals and asylums to adopt the metric system in prescribing and reporting cases, and that the faculty of Yale Medical College adopt it in their didactic, clinical, and dispensing departments.

4th. Requests the physicians to familiarize themselves with the system, and help the druggists in its application.

E. B. Lyon, New Britain,
C. J. Fox, Willimantic,
E. C. Kinney, Norwich.

The resolutions were taken up separately, and the first, second, and third rejected after considerable discussion. The fourth was passed.

Report was made by the committee on the medical examiner system, in place of the coroner, the committee being Dr. Wainwright, of Hartford, Dr. Worden, of Bridgeport, and Dr. Chamberlain, of Hartford. The report stated that the committee visited Boston, being present at the annual meeting of the State society. Massachusetts has the medical examiner system, having substituted it for the coroner system. Its working was pronounced eminently satisfactory, and a great improvement over the old; but as the result of consultation made with eminent lawyers of this State, etc., it was deemed advisable not to recommend the substitution in this State at present.

The report of the Treasurer showed a better condition with reference to the tax laid in 1879 than in any year since he had been in office, and it is doubtful if any year previous can present an equally good showing; with money in hands of clerks ready for transmission; but little over thirty dollars remain uncollected. This is due to the zeal and activity of the county clerks. The Treasurer commended especially Drs. C. W. Gaylord, of New Haven County, and F. M. Wilson, of Fairfield, for their efficiency in a hitherto difficult field. This leaves a balance of about three hundred dollars in the treasury.

The following officers were chosen for the ensuing year: *President,* G. L. Platt, Waterbury; *Vice-President,* Wm. Deming, Litchfield; *Treasurer,* F. D. Edgerton, Middletown; *Secretary,* C. W. Chamberlain, Hartford.

Committee on Matters of Professional Interest: W. A. M. Wainwright, M.D., L. S. Wilcox, M.D., W. L. Bradley, M.D.

There were four members to be chosen on the Committee of Examination, as there had been three new professors appointed at Yale, and there was one vacancy caused by the death of Dr. J. E. Barbour, of Norwalk. The Society has a member on this committee for each professor in the Medical School, and this committee grant diplomas. The President of the Society is ex-officio President of this committee. The following were elected: G. H. Preston, Tolland; J. A. Cleaveland, Middletown; H. S. Fuller, Hartford;

C. E. Hammond, Portland; E. Baldwin, South Canterbury.

Committee to Nominate Professors at Yale Medical Department: G. W. Russell, Hartford; C. H. Pinny, Derby; R. S. Goodwin, Thomaston.

Committee on Publication: C. W. Chamberlain, Chairman ex-officio; F. D. Edgerton; G. W. Russell.

Dissertator: J. W. Lyon, Hartford. Alternate, N. Nickerson, Meriden.

THURSDAY, MAY 27—SECOND DAY.

The Convention assembled at 9.30 A.M. A. R. **GOODRICH** in the president's chair, C. W. **CHAMBERLAIN** at the secretary's desk. First in order, the Secretary, Dr. Chamberlain, presented his report, showing the membership to be 440, a net gain of twenty. The zeal and activity of the county clerks have been marked, especially those in New Haven and Fairfield counties. During the last four years there were forty-nine deaths, one loss by expulsion, and twelve by removal and dismissal. This year the new members are thirty-five, nine in Hartford County; twelve in New Haven County; eight in Fairfield County; one in Windham County; one in Litchfield County; two in Middlesex County; and two in Tolland County. The deaths were: Hartford County, one; New Haven, two; New London, two; Fairfield, three; Windham, one; Litchfield, one.

There has been a steady gain in membership during the last five years, notwithstanding an unusually high death-rate. The Society has lost fifty-two by death during the last five years, most of them old men, average age sixty-one, three years above the general average as given in the Massachusetts tables. The oldest ninety, the youngest twenty-nine; eight were eighty and over; thirteen, seventy and over. The accessions of new members have made good the loss and given a steady gain; the total gain in the five years, sixty-five.

Owing to the illness of the President, the usual annual address was omitted.

DR. A. M. WAINWRIGHT, of Hartford, Chairman of the Committee on Matters of Professional Interest, next reported that the health of the people of the State had on the whole been very good the past year, and there were no epidemics to report. At his request, the reading of his reports from the several counties was delayed until a more favorable occasion.

PROF. W. H. CARMALT presented a very interesting dissertation on "Some Limits in the Use of the Ophthalmoscope," in which he endeavored to save the instrument from its injudicious friends, who, by making such extravagant claims for its powers as an aid to diagnoses of cerebral, and, indeed, of almost every disease, by showing its true field, and the limits within which it was useful. Undeserved discredit had already been thrown upon a very valuable and indispensable instrument by these extravagant claims. While it has almost unbounded limits in determining ocular disease, it has no power to demonstrate the condition of the circulation in the brain, whether congested or anæmic, nor in the diagnosis of cerebral disease, as these abnormal conditions do not affect the intraocular circulation, in which there is no arterial pulsation. Considerable discussion followed.

Introduction of business, cases of interest and discussion, was next in order. **DR. F. WAYLAND BROWN**, of Woodbury, introduced the case of a boy, who, while playing about a bonfire, fell into it, receiving serious burns about the lumbar, gluteal, and post-femoral regions. When the accident happened, the child was but three and a half years of age. In treating him, Dr. Brown stated that 2,000 grafts of skin from other persons were made. The lad was closely examined by the physicians present, who seemed to be greatly interested in the case.

PROF. CARMALT exhibited a perimeter of his invention, to take the place of the more expensive instrument of Foerster, to show the actual limit of the visual field. The instrument was very warmly received when exhibited at the meeting of the Ophthalmological Society at Newport, and attracted considerable attention from all the oculists present, and all interested in ophthalmic work.

DR. H. P. STEARNS presented a very valuable essay on the Insane Diathesis, in which the border-lands of insanity were treated and discussed in a masterly manner, and the causes that are at work in producing the great increase in nervous diseases and insanity were, to a great extent, presented and discussed; prominent among these he placed the faulty educational system now in vogue, the high-pressure system demanding attention to so many diverse and intricate subjects, overtasking the brain—often under the most unsanitary surroundings that could be devised. Not only was the brain overtasked, but the eyesight strained by imperfect or ill-adjusted supply of light, until nervous irritability, as well as impaired vision, were the resultants. The effects of too many hours of study, a rigid mechanical discipline, treating flesh and blood as if it were wood and steel, and the unsanitary surroundings and unhygienic regulations associated with school-life, were well presented. The resultant of insanity from ill-managed peculiarities and freaks, and other idiosyncrasies that are associated with the border-land of insanity, were well presented.

A very interesting essay on "Functional Diseases of the Nervous System" was then read by **DR. J. B. KENT**, of Putnam, in which he discussed the effect of overwork and mental strain, more especially as occurring in brain-workers, literary men, newspaper writers, business men with the responsibilities of a large and complicated concern resting upon them. The resulting insomnia, the resorts to stimulants and hypnotic drugs, and the resulting nervous irritability, brain-exhaustion, insanity and other nervous diseases, and brain-softening, were presented and discussed.

DR FRANK HAMILTON, an honorary member of the Society, who was present by invitation, discussed the treatment of Colles's fracture in his inimitable manner. He recommended light dressings, but one splint underneath the arm, padded so that there should be nothing immediately underneath the ends of the fractured bones, and then loosely bandaged. The hand should be left free and early motions encouraged. Where the patient could be trusted, the dressings should be removed at the end of the third week. The description of the fracture and its treatment were illustrated with specimens of fractured radii finely mounted.

DR. J. P. C. FOSTER then read a carefully prepared paper on the "Hereditary Transmission of Syphilis," in which he presented a thorough résumé of all that is now known upon the subject, also illustrations from his own practice and observation. Among the views advocated was that the child may be infected from the father without any infection of the mother, either prior to or during gestation. The paper was very well received.

DR. D. A. CLEAVELAND then read an essay, in which the ignorance of the profession generally concerning nervous and especially mental diseases and insanity were strongly condemned. As it is generally admitted that insanity is most amenable to treatment in the acute stages, and as it falls to the lot of the general practitioner to treat it in its incipiency, and too often through the overcrowded condition of our lunatic asylums, especially those for pauper patients, to whom health is the indispensable requisite for obtaining a livelihood, the importance of a better knowledge of the subject becomes evident; moreover, many of these cases have to be treated in almshouses, where they remain until all hope of cure is lost, even if there were any at the outset, through the lack of skill of the attendant as well as the lack of appliances. The power lodged in the hands of one physician in this State, of depriving a fellow-being of his liberty and of all civil and testamentary power, by declaring him insane, also demands a more thorough knowledge on the part of the profession, lest abuses should occur.

The paper was followed by considerable discussion, and, as before stated, a concurrence in the desirability of a change in the law concerning commitments to insane asylums, although no cases of abuse of this power have ever been brought forward in this State.

Several other essays were read by title only, as the hour for dinner had arrived: "Anomalies of the Eye as Aiding Diagnosis of Extra-ocular Disease," N. E. Worden, Bridgeport: "Chrysophanic Acid," C. J. Fox, Willimantic. Six or eight voluntary papers were read by title only, and referred to the Committee of Publication. The convention then adjourned to an excellent dinner given at Redcliffe's, and keenly enjoyed that and the social hours with invited guests that followed.

The next convention meets at Hartford, fourth Wednesday in June, 1881.

New Instruments.

A NEW FORM OF ASPIRATOR AND NEEDLE.

By A. M. PHELPS, M.D.,

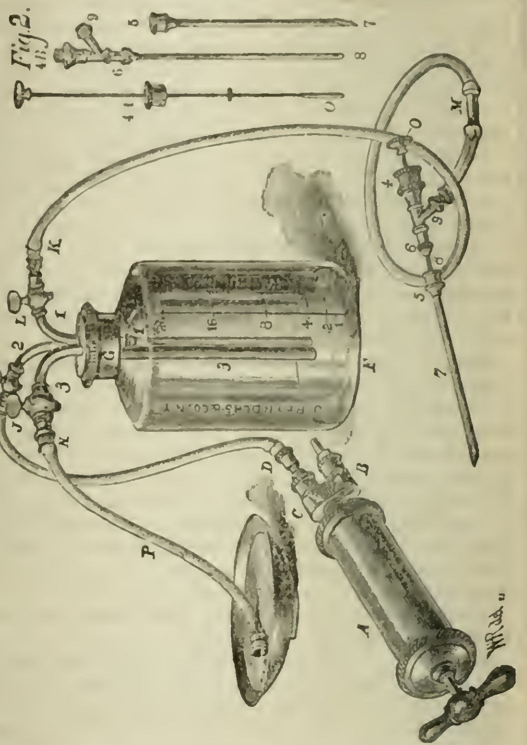
CHATEAUGAY, N. Y.

This instrument, which is a modification of Potain's, has been devised with a view to facilitate, as much as possible, the operation of aspiration. It is provided with a pump with two ends—one for aspiration, the other for injection—so constructed that either can be done without any preliminary preparation other than attaching it at the proper end, to accomplish what is desired of the two.

As the figure shows, three tubes emanate from the top of the bottle, one of which passes only through the cover of the bottle, and the other two to its bottom. The former is to be connected with the pump, and serves as a channel for air to be forced in or out of the bottle. Of the two tubes reaching to the bottom of the bottle, one is for conducting liquids into, the other for conducting them from, the bottle. Each tube is provided with a stopcock.

This arrangement forms an instrument which answers its purpose more readily than any other.

Supposing that an aspiration is to be made: the stopcocks L and J should be closed, the pump attached to the tubing D, at the end, designated by the backward-pointed arrow, showing that through it the air passes into the pump. The pump, upon being then worked, will produce a vacuum in the receiver F. When this is achieved, the stopcock H should be closed and L opened, after the needle has been introduced. As soon as the bottle is filled, it can be emptied by attaching the pump at its end B, closing the stopcock L and opening N. Upon working the pump, the contents of the bottle will pass out through P. By reversing this proceeding, an injection can be made without disturbing the screw cap G of the receiver—the receiver filled through P and emptied through K into the abscess.



It consists of three parts, as seen in Fig 2. The part 7 is slid over and O slid into the canula 8, the aspirator being attached to the lateral tube 9—7 is the cutting needle furnished with a rubber packing at 5, being shorter than 8; after its introduction 8 is pushed forward through it and the point is protected. The obturator is to dislodge obstruction in the needle during aspiration, and passes through a tight rubber packing at 4A. During aspiration it is drawn out beyond the lateral tube 9. The needle attached to the tube K shows it ready for the operation. In aspirating pus and effusion loaded with flakes of fibrin, I have not been disappointed in its use.

Exhibiting Pathological Specimens by Card.—A year ago the Pathological Society of London undertook a new feature in the conduct of their meetings. It consisted in allowing some specimens to be exhibited "by cards" on which short descriptions of the cases were written. Much valuable time was in this way saved. The society now reports that the plan, which was a tentative one, has been very successful. The hint might well be taken by other societies.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 4 to July 10, 1880.

Byrne, C. C., Major and Surgeon. Assigned to duty as Post Surgeon at Angel Island, Cal., relieving Asst. Surgeon Hubbard. S. O. 93, Div. of the Pacific and Dept. California, July 1, 1880.

Hubbard, Van B., Capt. and Asst. Surgeon. Assigned to duty as Post Surgeon at Alcatras Island, Cal. S. O. 93, C. S., Div. Pacific and Dept. California.

Kimball, J. P., Capt. and Asst. Surgeon. Granted leave of absence for twenty-one days. S. O. 63, Dept. of the Platte, July 7, 1880.

Winne, C. K., Capt. and Asst. Surgeon. To report in person to Commanding General, Dept. of the East for assignment to duty. S. O. 148, A. G. O., July 6, 1880.

DeLoffre, A. A., Capt. and Asst. Surgeon. Assigned to duty as Post Surgeon, Camp on White River, Colo. S. O. 144, Dept. of the Missouri, July 5, 1880.

Comegys, E. T., Capt. and Asst. Surgeon. Relieved from duty in Dept. of Texas, to proceed to Cincinnati, Ohio, and report arrival there by letter to the Surgeon-General. S. O. 148, C. S., A. G. O.

Reed, W., Capt. and Asst. Surgeon. His leave of absence extended one month. S. O. 146, A. G. O., July 6, 1880.

The following named Assistant Surgeons, recently appointed, will report in person to the Commanding Generals of the Departments set opposite their respective names :

R. G. Ebert, Department of the Columbia.
R. J. Gibson, Department of the Missouri.
R. B. Benham, Department of Dakota.
W. C. Gorgas, Department of Texas.
Norton Strong, Department of the Platte.
A. W. Taylor, Department of the Missouri.
S. O. 149, A. G. O., July 7, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending July 10, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
July 3, 1880.	0	9	28	8	22	38	0	0
July 10, 1880.	0	6	28	4	21	36	0	0

The Medical School at Cambridge University, England, has been enlarged by the addition of some buildings. This school has never amounted to very much until lately. Now, however, considerable study in the elementary medical branches is done, and there were seventy students attending the course on practical anatomy and physiology last fall.

The Cause of Wool-Sorter's Disease, which causes deaths in England every month, is being investigated by the Local Government Board.

The Faculty of Rush Medical College, Chicago, at their last meeting, voted that after March 1st, 1883, all applicants for matriculation in the college shall be required to submit at least a certificate of an entrance examination to a literary school or college, or pass a written examination in natural sciences, arithmetic, and English, as a condition of admission to the college.

This move marks a substantial step of progress for the school.

Prof. R. C. Kedzie, M D., has been elected President of the Sanitary Council of the Mississippi Valley.

The Starling Medical College has increased its fees to $75.

Over Ninety-eight tons of Quinine are annually consumed. The cost is about twelve millions of dollars.

Cruelty to Women.—For some time *The Lancet* and other English medical journals have been showing up the cruelty of compelling shop-girls to stand on their feet all day. Public sentiment has at last been somewhat aroused in the matter, and a little improvement has begun. In some shops the girls are now allowed to sit down when not busy. In many of the large establishments, however, any rest is still denied them. There is such a demand for positions by women that the shop-keepers have it all their own way. A short time ago a place in the post-office, paying $3 a week, was vacant. Within twelve hours, 1100 applications were made. With such an excess of supply over demand, it is found difficult to do very much in behalf of the shop-girl.

A Medical Postal Microscopical Society.—It is proposed by the editor of the *American Journal of Microscopy* to establish a Medical Postal Microscopical Society for the purpose of interchanging prepared slides. Such a society has been in successful operation in England, among medical men, and there is a Naturalist's Club in this country which is organized for the same purpose. The plan is to place in circulation a number of boxes, so constructed that slides can be placed in them and be circulated by mail among the members of the society. These boxes are made so that it is almost impossible for the slides to be broken. The English society, though yet in its infancy, has succeeded very well. One of its members writes that most of the slides have been of a very high order; some sent by professional mounters and others the work of amateurs (medical men) are triumphs of section-cutting, staining, injection, etc. The writer further states that it is a great pity that slides illustrating rare forms of disease or original investigations into the causes of morbid action, should be seen by the comparatively small number of medical men who can attend the meetings of societies. The subscription to the English society is only $1.25; and for that sum each member has an opportunity to see a large number of rare and interesting specimens.

The plan of the society is a good one, and there is no reason why we should not introduce it here. There would be, to be sure, longer transportation necessary, and consequently more risk than in England. Doubtless few would be willing to circulate rare specimens unless there was a duplicate ; but even with this restriction, a Postal Microscopical Club could do much good.

The editor of the *American Journal of Microscopy* has undertaken to initiate the movement for organization, and any who wish to assist it, or know more about it, should write to John Phin, 14 Dey street, New York City.

The Library of the N. Y. Academy of Medicine will be closed during the evening in July and August of the present summer.

American Ophthalmological Society.—The sixteenth Annual Meeting of the American Ophthalmological Society will be held on Thursday, July 22d, at the Masonic Building, corner Church and School Streets, Newport. The morning session begins at 10 o'clock.

Richard H. Derby, *Secretary.*

Chian Turpentine in Cancer.—Mr. Alex. Marsden, Senior Surgeon to the Cancer Hospital, London, states that Chian turpentine has been extensively used in his hospital, in cancer of the uterus, breast, tongue, etc., but without benefit in any instance. Of the samples used only two proved to be pure, but the patients who took this kind did no better than the others.—*Brit. Med. Journ.*

The New York State Board of Health at a recent meeting passed the following resolution :—

Resolved: That in the best interests of the people at large, the State has made it the duty of the State Board of Health, now for the first time authorized by law, to call attention to whatever may secure sanitary improvement by better systems and methods of drainage, sewerage, and ventilation, vaccination, the supply of pure water, the prevention of the adulteration of food and of the pollution of wells, and the prevention of filth diseases and other destroyers of health and life, to the end that discussions, information, and the best sanitary measures may be had to avert danger. When it is understood that scarlet fever may be communicated by the breath in a second of time and from infected clothing not worn for a year, and that diphtheria often results from contact with impurities in earth, air, and water, parents and school-teachers will see the necessity of excluding children afflicted with or exposed to either disease from entering schoolrooms and all places where others would be endangered. All good citizens will also realize the danger from exposure to decayed vegetables, fruits, and other sources of sickness, especially when surface or subsoil wells communicate with water polluted by proximity to drains, cess-pools, and other filth. The State Board looks first of all to an enlightened and healthful public opinion to aid it in the important and responsible duties imposed upon it by the State."

The above resolution is excellent in spirit and correct in the facts. As a specimen of English composition, however, it is an agonizing piece of work.

Another resolution was passed requesting the various county officers in the State to call general attention to the provisions of the law creating the Board of Health.

Impure Bromide of Ethyl.—Dr. Carl Jungk, in the *Therapeutic Gazette*, has given the results of analyzing a large number of samples of hydrobromic ether. Among the samples examined were specimens of the ether used by Dr. J. Marion Sims and of that used by Dr. Levis in their fatal cases. The reactions of these demonstrated conclusively their entire unfitness for purposes of inhalation.

Prof. Lister is to receive the honorary degree of LL.D. from the University of Oxford.

The Hospital Sunday Collections in London this year amounted to nearly $100,000.

Dr. Charles T. Van Winkle, one of the oldest practitioners of New Jersey, recently died at his residence, Little Falls, N. J.

The Health of the City.—The city is reported by the health authorities to be in better sanitary condition than in any previous summer. The excessive heat, however, has produced an extraordinarily large mortality, especially among children. The number of deaths among those under five years of age had been nearly sixty a day up to July 12th. The following table will show the mortality and its relation to the temperature:

Week Ending.	Total Deaths.	Under 1 Year.	Under 2 Years.	Under 5 Years.	Mean Temperature.
June 5...	501	112	157	193	66.1
June 12 ..	479	144	189	211	70.7
June 19...	707	278	338	386	71.1
June 26...	1,038	529	664	713	78.6
July 3...	1,297	635	804	863	72.2

For the week ending July 12th, the temperature and mortality were as follows:

	Deaths.	Infants.	Max. Temp.
July 6....	135	..	79°
July 7....	144	..	80°
July 8....	127	..	84°
July 9....	135	..	85°
July 10....	134	..	84°
July 11....	106	..	86°
July 12....	134	72	85°

The number of deaths among children under five years of age has been from 49 to 67 per day. The average being about 60.

Of the mortality in the week ending July 3d, 59.83 per cent. was in tenement houses. Of the mortality among children under five years of age, 66.85 per cent. has occurred in the tenement houses.

This is at about the usual ratio throughout the year and it cannot be claimed that the tenement houses are made very disproportionately fatal by the high temperature.

In the week ending July 12th, the proportion of mortality in tenement houses was slightly increased.

The number of sunstrokes has not been very large. On July 9th, 19 cases of prostration from heat were reported. The average number has been about half a dozen.

Dr. Tanner's Fast.—On July 14th Dr. Tanner was reported to have gone for sixteen days without food. The amount of water taken is said to have averaged from half an ounce to an ounce a day. Four ounces were taken in the first nine days. Water is frequently used to rinse the mouth and wet the head and feet, but none is, apparently, swallowed. The amount of flesh lost has been a little less than a pound and a half per day. The temperature and respiration have been normal; the pulse has occasionally run up to 100, but not much beyond that point. The general condition has been very good. The faster walks about and converses freely. His mind has continued clear, but has become somewhat irritable. He complains of no pain or great suffering; but he is restless and his countenance bears a pinched look. There is a gradually increasing physical weakness and tendency to doze or lie quietly on the bed.

There has now been established a watch of eight regular physicians, in conjunction with the eclectics. All the watchers seem to feel great confidence that the fasting man is in earnest and has taken no food.

Original Communications.

TRACHEOTOMY IN CROUP:

WITH REMARKS ON

THE PATHOLOGY, DIAGNOSIS, PROGNOSIS AND TREATMENT OF THE DISEASE, AND THE CAUSES OF DEATH IN FATAL CASES; WITH A REPORT OF THIRTY-FIVE OPERATIONS.

By JOHN H. RIPLEY, M.D.,

SURGEON TO CHARITY HOSPITAL: PHYSICIAN TO ST. FRANCIS'S HOSPITAL, NEW YORK CITY.

PART IV.

DURING the past few years I have met several prominent physicians who, after having performed tracheotomy for croup a number of times without success, were inclined to look upon it as an operation of doubtful efficacy. I had myself nearly reached that conclusion, when I was unexpectedly cheered by a recovery. Since that time I have never lost faith in its power to save life, although I have sometimes thought that the instances in which it would do this were rare. Now, however, after a more extended experience and observation, I am satisfied that it is not only often successful, but that, as a general rule, it is the only resource which does offer any hope in cases of grave exudative croup.

Diagnosis.—Some time ago I was present at the examination of a candidate for one of our city hospitals, when this question was propounded: "What is the pathognomonic symptom of membranous croup?" The trembling young doctor gave it up. "Seeing the membrane," instructively remarked the professor. Well, if by that assertion be meant "seeing the membrane in the larynx," then I fully agree with it; but if it be meant that when you have a patient with a croupy cough and membrane in the fauces, you necessarily have exudative croup, then I know that you will sometimes be mistaken. I have already seen two such cases, in which the laryngoscope showed entire absence of membrane in the larynx. And, if we may judge from the subsequent progress of cases, there must be quite a large number exhibiting these conditions, that either have no membrane in the larynx, or, if they have, it is of a thin, non-developmental character, so that it keeps up a slight laryngeal stenosis for one or more days, and then disappears without causing grave symptoms or demanding special treatment. Every physician who has had much experience has seen such cases. Some, that linger in this way for several days, ultimately develop into the gravest form of croup. The laryngoscope only can decide which are pseudomembranous and which simply inflammatory. During the last few years I have devoted considerable time to the study of the earlier manifestations of this disease, in a comparative way, in order, if possible, to find some one symptom, or set of symptoms, by which it could be differentiated from that affection which so closely simulates it at times, *catarrhal laryngitis.* But I do not believe it is always possible to tell which you have to deal with, even after two or three days' watching. In fact, I am forced to the conclusion that, occasionally, the inflammatory œdema of a laryngeal catarrh may go on to fatal obstruction. We know that it occurs in the adult, and I, myself, have seen two cases which would, undoubtedly, have terminated fatally, had they not been saved by tracheotomy. They are referred to elsewhere in this paper. I have also seen a child with this form of laryngeal obstruction in consultation with Dr. Geo. M. Edebohls. The symptoms persisted after a fair trial of both local and constitutional treatment, got worse, and tracheotomy was performed. The following morning respiration could be carried on freely through the larynx. This condition, however, I believe to be of exceedingly rare occurrence in children, and that those reported cases in which the autopsy did not discover membrane, were mostly undeveloped pseudo-membranous croup. The pitch and character of the cough, the quality of the pulse, the temperature, the presence or absence of catarrh of other organs, are the main points to be considered in making an early diagnosis, if no membrane be visible.

In *catarrh of the larynx* the cough is usually more or less moist, lower in pitch, and often changes its tone, owing to the expulsion of sticky mucus, etc. The pulse is frequent, but soft and compressible. The temperature is usually low, elevated only from one to three degrees F. It is more frequently associated with coryza and catarrhal conjunctivitis, and sometimes also with diarrhœa, bronchitis, or cystitis. The fauces may, or may not be congested. A history of similar attacks, if obtained, is also to be taken into consideration. Especially something like this: "Doctor, he always coughs croupy when he gets a cold."

In *primary croup* the cough is dry, high-pitched, ringing, and unchangeable as a rule. The voice, too, is generally hoarse from the first, whereas in the milder complaint it is often unchanged. The temperature is of a higher grade, 102°–103°. It is not often associated with catarrhal symptoms of other organs. The condition of the fauces is no guide. Time is often of great importance in arriving at a diagnosis. For example, if the history obtained is that the child has been sick three or four days with croupy cough and coryza, and is no worse at the time of your visit, the probabilities are that it is simple catarrh; and every day added without supervention of graver symptoms strengthens your opinion.

There is a class of inflammatory cases in which, after a few days of catarrhal symptoms, there is early and persistent dyspnœa, lasting sometimes for a week or even longer. Slight amelioration takes place during the day, but, as evening advances, the dyspnœa becomes again more marked. One who had not seen such cases would be almost certain to make a diagnosis of membranous croup. To avoid error in diagnosis it is only necessary to watch and to wait. It will soon be seen that, although the symptoms are severe, they do not progress; here again, too, the temperature is low.

My observation would lead me to believe that *retropharyngeal abscess* is also sometimes mistaken for true croup. The absence of fever and the characteristic craning of the neck should lead one to suspect, and a digital examination of the pharynx demonstrate, the true nature of the disease. Yet, I have known an instance in which a child was allowed to die of a supposed croup, when a simple puncture with a scalpel would have saved its life.

Spasmodic laryngitis, or *false croup*, as it is generally called, with its sudden, nocturnal, and severe onset, and its short duration, does not much resemble the more dangerous disease. But, after all, I have been able to find but a single pathognomonic symptom of true croup: *continuous and progressive laryngeal stenosis.* When once it has set in, like the temperature of the first days of typhoid fever, each succeeding evening finds it more advanced than before, although it may lull the fears of the parents by day.

The question whether there be a primary non-contagious, non-infectious disease, characterized by a fibrinous exudation upon the mucous membrane of the larynx and contiguous parts, and which kills only by mechanical obstruction, is still being discussed. Before my experience with these cases I was strongly with the affirmative. Now, I am consciously and conscientiously undecided. It has always seemed to me to be a strong argument in favor of the existence of a non-contagious croup that physicians in this country generally, until recently, since the prevalence of diphtheria, have recognized such a disease. One would expect that, from time to time, cases of contagion would have occurred sufficient to excite suspicion at least. Now, since diphtheria has been epidemic, inflammatory diseases about the throat partake more or less of the diphtheritic nature, just as certain febrile diseases in a malarious district are often complicated with malaria. Hence, a physician of but a few years of experience, and having observed croup only as it occurs in this city, or in places where diphtheria has at the same time extensively prevailed, would be very likely to conclude that it is simply an extension of the latter disease into the larynx.

Such, therefore, have been the circumstances under which most of these cases have been observed—nearly all of them having occurred since 1875. Cases I., III., V., and XXVIII. present those characteristics which belong to the local disease. The children all died, as I believe, from bronchial croup, without blood poisoning and without infecting others, although there was sufficient time and opportunity for both. Case XX. was pretty clearly one of diphtheritic croup, and yet the boy died as the others had, and also without communicating the disease, although there were several children about him during his entire illness. Case II., at the outset, and until several hours after the operation, presented no symptoms of constitutional disturbance, and yet it terminated as the most terrible case of systemic poisoning of all.

Case XVI. was like pseudo-membranous croup until the last hours of life, and, apparently, infected another child. Now if there be an exudative croup, distinct in its nature and manifestations from diphtheritic croup, a careful observation of these and many other cases has not enabled me to differentiate it either at the outset of the attack or at any time during its progress or after it has terminated. In this dreadful disease "no man can predict what a day will bring forth." What appears to-day as a local, inflammatory disease may, by to-morrow, present the gravest constitutional symptoms.

The microscopical examination of the membrane has not added any differential points. This is more or less well organized, according to the severity of the case and the rapidity with which it is formed, those specimens taken from the trachea and bronchi generally being the toughest and most fibrillated. And this is true of all cases, whether occurring primarily in the larynx or not. In regard to the presence of micrococci, I have found them in all the specimens which I have examined, whether taken from the fauces or air-passages; the more severe the disease the more numerous the organisms. The so-called nests seemed to be nothing more than little lakes and inlets formed by the breaking down and liquefaction of small areas of the purulently infiltrated membrane in which these bodies were crowded. In some cases the membrane peeled off easily and without hemorrhage, and in others the reverse was true. But neither characteristic belonged especially to any particular form of the disease.

Treatment.—The medical treatment of this disease is in the highest degree unsatisfactory. Inasmuch as we know of no medicine which seems to have any influence on the poison of diphtheria, so we cannot expect to accomplish much by internal treatment. "Stimulants and nourishment are our main reliance in the treatment of diphtheria," said Prof. Alonzo Clark, twenty years ago. It was true then and it is equally so to-day, notwithstanding the numerous crops of ephemeral specifics which have sprung up from time to time since then. Medicated sprays and steam, emetics of various kinds, and the internal administration of large and small doses of calomel, have generally failed to dissolve or to dislodge the membrane when located in the air-passages. Individual instances there are of children recovering from grave croup in all stages of the disease and under all forms of treatment, but these instances are so rare and exceptional as to render the efficacy of any given cause of medication exceedingly doubtful. The plan which I should recommend, if the case were seen early, before dangerous and exhausting dyspnœa had set in, would be the following: Apply large, warm poultices over the larynx and reaching two-thirds of the way around the neck. Have them fit as closely as possible, without obstructing circulation or respiration, and changed as often as they become cold. I know, from both observation and experience, that they give comfort, and, at least, temporary relief. Keep the temperature of the room at from 70° to 80° and the atmosphere charged with steam. Use, in addition, if the child can be controlled, the more direct application of steam from some form of croup-kettle, not continuously, but at short intervals of, say, fifteen minutes, five minutes at a time. When the patient is sleeping a gentle stream may be kept up all the time if care be taken not to give it too warm. Many times the children are burned with it from carelessness of the attendants and then cannot be induced to inhale it; but, if carefully managed, they soon learn to appreciate its ameliorative influence over the difficult breathing, and become voluntary assistants in administering it. In a few cases it has seemed to hold the obstruction in check until the disease exhausted itself. Such a one was that of a boy five years old who had a very severe form of naso-pharyngeal diphtheria, with infiltrated cervical glands and cellular tissue, complicated with a nephritis which, at one time, yielded urine containing 30 per cent. albumen and large and small hyaline and epithelial casts. For six successive days and nights the patient had laryngeal obstruction, which, at times, was so severe that I prepared to tracheotomize, but he finally recovered without an operation. He had double vision, paralysis of soft palate and paresis of the lower extremities for several weeks following the attack. Dr. Clark saw him with me in consultation. A frequent repetition of so successful a result, in equally bad cases, would give a specific character to the remedy; but, unfortunately, this is not the case, for, although I have used it quite constantly during the last two years, and have seen it used repeatedly by others, the rule has been that the obstruction progressed to a fatal degree in spite of it. Nor has the substitution of lime vapor seemed to be any more efficacious, whether evolved from slackening lime or projected from a spraying apparatus. Finally, as a last medicinal remedy, some emetic may be given one or two trials, but not more. Of these I consider either the sulphate of copper or the yellow sulphate of mercury as the most prompt and sure. But I cannot too strongly deprecate the custom of repeatedly exhibiting these depressing and exhausting agents in the vain hope that they may ultimately succeed. They only jeopardize the last chance to be given the patient by the operation of tracheotomy.

Tracheotomy.—Premising that the case has been seen early, and that the medical treatment has failed not only to relieve, but also to hold the progress of the disease in check, and that the child is now becoming cyanosed and exhausted, tracheotomy should be performed without further delay. And just here I desire to state, without fear of contradiction by those who have had a large experience in these cases, that there are few operations in surgery attended with more immediate danger to life, or requiring greater coolness on the part of the operator, than that of tracheotomy for croup in young children. Statistics on this point are difficult to obtain. I have personal knowledge, however, of eight children who have died on the table during the operation, and several of them were in the hands of experienced operators. In a certain class of cases it is simple enough; but, when done on a child with thick, infiltrated neck, suffering from profound, systemic poisoning and exhaustion, it becomes an exceedingly difficult and dangerous operation. In order to do it carefully and safely, certain preparations are necessary. 1. Two assistants should be had when practicable. 2. A firm table, covered with an old quilt or blanket, with a pillow placed upon it, should be made ready to receive the child. 3. A hard, cylindrical body, three to four inches in diameter, and six or more inches long (generally an old bottle can be found to answer the purpose best), rolled up in a piece of flannel or other soft cloth, should also be at hand. 4. A small bottle of chloroform, a couple of soft sponges, and two or three large goose-feathers, with well-vaned and flexible tips. 5. Two French double silver canulas, threaded with suitable tapes, a pair of dilators, a couple of retractors, a couple of scalpels, and a sharp-pointed bistoury; a pair of scissors, artery and dressing forceps, a director, threaded needles and ligatures, should be within reach of the operator or his assistant. 6. A basin of water in which to cleanse the sponges or other things. While these preparations are being made, the child should be given a teaspoonful or two of brandy. Now place the child on the table, with the pillow under its head, having previously unclothed the neck and chest, and let chloroform be carefully, but not timidly, given by the most experienced of the assistants. As soon as sensibility is lost, the bottle, or other body used, should replace the pillow by being put under the back of the neck, well against the shoulders, so as to throw the head back and bring the trachea forward and superficial as far as possible. See that the body and neck of the child are in line, and kept so. Standing on the right side of the child, make the primary incision in the median line, beginning at the lower border of the thyroid cartilage, and extending it to within half an inch of the sternal notch.

Having divided the skin and superficial cellular tissue, a nick in the deep fascia will enable the operator to pass a director under this tissue, and it should be done, and this and all the subsequent layers divided on the director whenever the knife is used, except little touches now and then which can be made with perfect safety. The best guides to the median line, which should always be kept, are the sterno-hyoid and sterno-thyroid muscles—especially the latter, whose whitish and firm inter-muscular fascia can generally be easily distinguished. In addition to these aids, the left index finger can, from time to time, be introduced into the wound and the trachea felt, so as to make sure of its relations. After the division of the deep fascia, the thyroid veins are seen ramifying in the deep subcellular tissue, often large and numerous, and lying more or less in the track of the incision. Now, it is better to take the scalpel-handle or director, or both, and cautiously tear away the cellular tissue from the median line, taking care to avoid the veins and to draw them aside when necessary. Much aid will be afforded to the deeper dissections by having the assistants hold apart the edges of the parts already divided, with the retractors. Often, after the deep fascia is opened, the remaining layers covering the trachea can be torn away with the handle of the knife or with the fingers. Sometimes the trachea lies very deep, and the wound, which was long enough at the outset, is allowed to get shorter and shorter in the deeper dissections, until, when the trachea is reached, it is found that there is not sufficient of the latter exposed for the necessary opening. In that case, unless the deeper cut can be lengthened without danger of wounding the vessels, it will be better to begin superficially at either the upper or lower angle of the incision and divide the tissues again, layer by layer, as extensively as necessary. Having clearly exposed the trachea to a sufficient extent, say half an inch, the soft parts should be held away with the retractors, being careful not to pull too hard on them lest the trachea be flattened, and thereby not only respiration impeded, but the posterior tracheal wall endangered when the opening is made. Now, having the dilators and one of the tubes where they can be immediately picked up, with the sharp-pointed bistoury open the trachea (preferably just below the isthmus of the thyroid), cutting either from below upward or from above downward, it matters little which, if carefully done. The eye is the best guide as to how large this opening should be, but it is better to make it too small than too large at first, for it can easily be enlarged subsequently. Great care should be used also not to thrust the point in too far. It will be felt free as soon as it has perforated the anterior wall. Usually, as soon as the wind-pipe is punctured, the fact is announced by the hissing of the air as it rushes in through the opening. Occasionally the respiration is for the moment suspended, and no sound is emitted. The dilators should be introduced as soon as the opening is made. A violent cough, with the expulsion of large quantities of pus, blood, and sometimes membrane, immediately ensues. These matters should be caught with a sponge as they appear, and not allowed to be sucked back into the bronchi. As soon as the convulsive coughing subsides, the inner surface of the trachea, as far as can be seen through the opening, should be examined for membrane. If any is seen that can be removed with forceps or by other means, it is better to remove it. In some cases it may not be practicable to delay introducing the tube after the trachea is opened; but generally, if the child's breathing be safe and hemorrhage not troublesome, there is no hurry, since the dilators keep the wound open and admit plenty of air, and the way can be made clear before putting in the canula. As soon as this is done, the chloroform should be withheld, the tapes fastened, and the wound stitched while the child is recovering consciousness. It is better not to close the edges of the soft parts tightly around the tubes, but to leave a little space above and below of a quarter of an inch or more, so that its movements may be free, and also to avoid the tendency to emphysema of the neighboring cellular tissue, especially if the tracheal opening be large. A quiet sleep of one or more hours usually follows the operation, and during this period it is just as well to let the patient remain on the table, taking care to make him comfortable with pillow and covering, and having some competent person sitting by with a moist sponge, ready to sop up the secretions as they are coughed up from time to time through the tube.

The following method of operating is practised by my friend, Dr. John J. Reid: "The operation consists in making the usual incision in the middle of the neck and dissecting up the skin. The strong superficial fascia in the median line which connects the sterno-hyoid muscles is then separated, and subsequently the knife is dispensed with till it becomes necessary to incise the trachea. The remaining part of the operation is performed by two tenacula, and consists in tearing the deeper fascia and drawing the thyroid veins to either side in such a manner that the trachea is thoroughly denuded. To such an extent may this be done that the whole of the trachea, from the cricoid cartilage to the thymus gland, may be separated from the thyroid gland and veins, and leave a free surface for incision. After the operation has proceeded thus far, a tenaculum is inserted into either side of the trachea, and slight traction made. A bistoury is then carried through the rings, when immediately the trachea bulges open and is so maintained by the tenacula." There are several points connected with this operation which, I believe, should be considered more particularly.

1. The question of anæsthetics. I have twice seen the operation performed on a conscious, struggling child, and I do not wish to add to that experience. If the child be sufficiently conscious to suffer pain and to struggle, I believe it is both safer and more humane to give an anæsthetic; and, if the choice is left to me, I much prefer chloroform. In my opinion it is at least equally as safe as ether in these cases, more rapid in its action, while its effects are less prolonged, and it is less disagreeable to inhale and less likely to be followed by depressing nausea. Besides, what I consider very important, it almost always has a tendency to relieve the dyspnœa while being inhaled, whereas ether, especially at the beginning, has the opposite effect. If it be dangerous to give these toxæmic children, with feeble hearts, chloroform, would it not be quite as dangerous to allow them to struggle and suffer pain and fright during the operation, to say nothing of the additional risk of accidents? Of course, it is of the most vital importance to have a competent administrator.

2. The *dilator*, as Trousseau has truly said, is indispensable. It is easily introduced, and it not only makes the introduction of the tube into the trachea a simple procedure, but it enables the operator to examine thoroughly the interior of the windpipe in the neighborhood of the wound, and to extract any visible false membranes before fixing the canula in place. Various forms of this instrument are in use, but the most satisfactory is that which bears the name of Hutchinson. It is bivalvular, with slender blades, slightly clubbed at the extremities. Trousseau's instrument is not quite so easy of introduction, but preferable to any of the others that I have seen.

3. The question as to the form and size of *canula* to be preferred is an important one. In my opinion the best form is the double silver tube with movable plate. As to size, although I have sometimes used larger, I have found that one the diameter of whose outer rim is about five-sixteenths of an inch is sufficiently large for any child, while it has twice served for a child under one year of age. And, *per contra*, I have twice had it in an adult with occluded larynx, and found it supplied all the air required. The objection to using one much smaller, even for a very young infant, would be that where the calibre is very small it becomes easily occluded. Still, I have used one successfully whose diameter was only three-sixteenths of an inch. The *length* required is not ordinarily more than two to two and a quarter inches, unless the neck be much swollen. Again, the tube should not be too much curved, otherwise it endangers the anterior tracheal wall by its pressure, does not admit air as freely, and gives the patient pain.

In short, a tube should be perfectly movable both outside and inside the trachea. The hard rubber instruments are objectionable on account of their brittleness and the relatively small size of the lumen as compared with their diameter.

When one has been introduced suitable to the case, it fulfils all the indications for which it was devised, and better than any other invention that I know of. It is painless, non-irritating to the parts, not easily displaced, and keeps the way open as far as it reaches.

Accidents and complications during the operation.—1. Hemorrhage to any alarming degree usually arises from the unintentional division of one or more of the deep cervical veins. By careful, deliberate dissection it can generally be avoided, and, in a majority of cases, there is time for this painstaking. If, however, it occur, it should at once be arrested by ligaturing the bleeding vessel, unless asphyxia be extreme. Holmes, in his excellent article on tracheotomy ("Surg. Dis. of Children"), speaks of the danger of wounding the innominate artery in low operations, when that vessel crosses the trachea at an unusually high point, and quotes a case in which this accident actually occurred. In two of my own cases I fully exposed this artery, and, had I not been carefully dissecting, might have injured it. In both instances the children were under two years of age, and the vessel abnormally high in the neck. 2. Cessation of respiration sometimes occurs suddenly, either during the operation or just after the tube is inserted. In the first instance, if it does not begin again after withholding the chloroform and giving the child a few shakes, the head should be lowered a foot or more below the level of the hips by raising the foot of the table, and artificial respiration resorted to. Frequently, the change of position alone will succeed. The resting, as it were, of the respiratory muscles after their terrible labor which sometimes succeeds the introduction of the tube, must not be mistaken for that paralytic condition characterized by blanched face, dilated pupils, and feeble or absent pulse. In the one case there are no consequential symptoms, and, if closely observed, it will be seen that there is some slight respiratory movements. It needs no treatment. In the other, one of the most successful plans is to pass one of the feathers down through the tube and irritate the tracheal mucous membrane. This failing, lowering of the head and artificial respiration should be faithfully tried. 3. Difficulty of introducing the tube is occasionally met with. If the trachea be well exposed before being opened, the dilators introduced as soon as the opening is made, and the retractors held in position until the tube has been inserted, this complication will not often arise. If the opening become displaced and lost sight of in attempting to get the canula in, and the symptoms be not too urgent, search should be made for it before incising the trachea a second time, although I have no reason for supposing that a second incision would imperil the result. The dilators sometimes stretch and flatten the trachea, or do not open sufficiently wide to admit the trachea tube between the blades, because the set-screw has not been properly fixed beforehand. Sometimes the blades are pushed down too far into the windpipe, and hence the difficulty of passing the canula. Displacement of the prop under the neck is another cause. With proper precautions I do not see how the tube can be mistakenly pushed into the cellular tissue in front of the trachea, unless the operator become very much confused. In any event, if air does not pass through the tube, it should at once be taken out and the explanation sought for, no matter how serious the difficulty of replacing it.

4. Mediastinal emphysema. In a certain proportion of cases, in which the neck is short and thick, and the difficulty of reaching the trachea thereby increased, the anterior mediastinum may be opened and air sucked in during the operation. This ceases, if not before, as soon as the trachea is opened and the cause of the vacuum removed. I have shown the result of this in one of the autopsies. It probably does little harm and would soon disappear if life were prolonged, as it does in the superficial cellular tissue when the cause is removed.

After-treatment.—How great an amount of time is necessary in the management of these cases during the first few days following the operation, if we would hope for success, can only be realized after personal clinical experience. They should be seen at least every eight hours, and there are almost always little things to do at these visits which consume time. The mute, helpless condition of these little ones excites our sympathies, too, and we linger about their cribs, lest something be left undone which might add to their comfort or improve their chances of recovery. But, in spite of our best efforts, a very large majority die, sometimes more painfully than if we had abandoned them to their fate before doing tracheotomy; and, in such cases, the only consolation is that we tried to do our duty. Usually, during the first twenty-four hours, the case progresses favorably, and everybody is thankful. If the breathing is perfectly free, a large, moist sponge may be fastened over the mouth of the tube by attaching strings to its extremities and carrying them around the neck behind and tying them. This is a much better arrangement than Trousseau's cravat, which is soon saturated with the secretions, gets dry and stiff and foul-smelling, and, if not watched closely, adheres to the tube-plate and becomes a source of obstruction. The sponge accomplishes the double purpose of warming and moistening the air to be inspired just as well as the cravat, can be easily kept clean, and need only to be raised a little in order to manipulate the tubes. If the breathing be at all harsh the direct inhalation of steam from the croup-kettle should be kept up. Whatever the condition of the child, I think it is better to keep the atmosphere of the room moist, by means of kettles of boiling water in which, if necessary, may be placed certain articles of bedlinen or clothing. An equable temperature of between 70° and 80°, regulated by a thermometer, should be maintained. The inner tube should be taken out and cleaned as often as it becomes obstructed, but not on the occurrence of every little rattle of mucus. On the second day it will be well to remove both tubes and clean them thoroughly and apply new tapes. At the same time the wound can be cleaned and the permeability of the larynx tested. A washer made of several thicknesses of muslin, oiled-silk, or other suitable material, and smeared over with a bland ointment, when placed between the plate and the wound, adds comfort to the patient. If the first tube be of proper size and length, I cannot see that it is necessary to change it.

If the swelling of the parts diminish, making it too long, or the reverse occur, making it too short, or if it press injuriously at any point, substitute another. But, if adults can wear the same tube for months, I do not see why children cannot for days or weeks. The wound does not need any special treatment other than that suggested above, unless extensive cellulitis or emphysema occur. It is common to have the wound covered with membrane, and I think it should be treated as the majority of practitioners treat membrane on the tonsils—let it alone. If cellulitis be extensive and severe, hot poultices are indicated, after cutting the stitches loose. When the tube is properly in the cavity of the trachea, the subsequent occurrence of emphysema will be rare unless the tracheal incision has been much too long, and the wound closed too tightly around the canula; in that case, each expiration of violence forces air into the cellular tissue through the opening between the angle of the wound and the tube. This has never happened to me but once, and that was in the case of an adult. Cutting loose a couple of stitches relieved the cause, and the effect disappeared in a couple of days. Erysipelas, starting in the wound and extending more or less over the neck and chest, cannot be checked by local treatment. For want of something more efficacious, I still use the muriate of iron internally. I cannot see that removing the tube would accomplish anything, even if such a procedure were safe, although it is recommended by Cohen; for, at this period of the case, the tube usually hangs loose in the trachea, neither the plate nor the tapes coming in contact with the wound, which can as easily be kept clean as when the instrument is out. Hemorrhages occurring in consequence of abrasions or ulcerations of the mucous membrane of the trachea have not proved sufficiently alarming, in my experience, to demand any other treatment than the careful avoidance of disturbing the parts by changing tubes, passing probangs, etc. If I had a case in which the hemorrhage was profuse and persistent despite the application of styptics by means of a bit of sponge fastened to a pair of curved forceps, I should resort to Trendelenburg's obturator, as suggested to me by Dr. McBride. If there be nasal diphtheria, producing a sanious, irritating discharge, the parts should be kept as clean as possible by wiping the nose and upper lip with a silk handkerchief or a soft moist sponge occasionally. Since the respiration is carried on through the opened trachea, it is unnecessary to syringe out the nasal passages with a solution of salt and water, as is sometimes indicated *previous* to the operation, especially in those cases in which the pharynx and fauces are very much swollen, and we wish to keep open all the avenues for the admission of air. Although nasal diphtheria is sometimes associated with the graver forms of the constitutional infection, it is quite as often, in my experience, found in mild cases. Nor is there any more constant relation between nasal diphtheria and infiltration of the cervical glands. Severe cases have swollen cervical glands, whether the nasal passages are involved or not, as a rule, and very mild cases do not, even though the nares be involved.

Any theory based on the real or supposed anatomical relation of the absorbents of these parts must bear the test of clinical observation, or fail, no matter how plausible it may be. Inflammations and ulcerations of the nasal cavities exist for months and even years without markedly involving the cervical glands, whether the causes are scrofulous, specific, or malignant. Of course, in many cases of ozæna and chronic catarrh, all the lymphatics are more or less involved because the disease is of scrofulous origin. In what form or by what avenue the diphtheritic poison first enters the system is not known. But it is known that children sometimes suffer for days from severe constitutional symptoms, while the most careful search fails to discover any true local manifestation until later. In fact, the rule is, where intelligent, close observation has been made, that constitutional symptoms precede local. Neither is it at all necessary that the first localization be in the throat or nose; many cases have been observed in which the first deposit was as far removed as possible from these parts. There is no constant relation between the local and constitutional manifestations. Some patients being struck down, overwhelmed with the poison, and dying before any considerable deposit of membrane or any marked inflammatory changes have, as it were, had time to take place in the fauces; and, on the contrary, nares, fauces, and pharynx may be covered with membrane and yet the constitutional disturbance be slight. Jacobi said in 1860: "Diphtheria is a general disease; it has local deposits, it is true, but in the same manner that scarlatina will localize itself on the skin, mucous membrane of the Bellinian canals, etc; measles on the skin and the mucous membrane of the respiratory organs; or typhoid fever on the mucous membrane of the intestinal tract" (*American Medical Times*, vol. i., p. 95). This is a clear, perspicuous, and, I believe, true statement. Hence the folly of expecting to cure the disease by any local application; or of trying to prevent auto-infection in a system already charged with the poison. One might as well attempt to cure small-pox by frequently washing the pustules with a "disinfectant." But, even on the theory that these children die of septicæmia, and that the poison is absorbed from the nasal cavities, which seems very improbable, is syringing out these cavities several times an hour, as advocated by some authorities, indicated? Who thinks of washing out an infected uterus, or abscess of the pleural cavity or other organ, with any such frequency? If carried out as recommended, it must prove a most exhausting plan of treatment.

(To be continued.)

A Home Hospital, which admits patients and allows them to continue under the care of their family physician, has been opened in London. It is somewhat on the plan of the French Maison de Santé, and is a kind of institution much needed in this country.

THE CONTAGION OF CONSUMPTION.

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The most important question now engaging the attention of the medical world is the contagion or the communicability of consumption. Clinicians here and there, have from time immemorial held the view that consumption was contagious. The authorities, from age to age, who have made themselves such by the close study of the disease, have died of it. Such was the fate of Bayle, Young, Laennec, and many others. Riverius made the observation as long ago as 1668, that members of a family have one after another succumbed to the disease. Contagion he declares to be the "chiefest" cause of phthisis; "for this disease is infectious. We may observe women to be infected by their husbands and men by their wives, and all the children to die of the same, not only from infection of their parent's seed, but from the company of him that was first infected." Similar observations have been made in every decade since, and yet any general acceptance of the infectiousness of phthisis never obtained until the disease was inoculated in lower animals, first of all 200 years later by Villemin, 1865. The value of experimentation on the lower animals has never been so conclusively demonstrated as by the confirmation thus afforded of the specificity of the tuberculous virus.

It is worth while, however, to notice the force of the convictions of some of the clinicians from mere bedside observations.

Before his death, nearly fifteen years ago, Budd, one of the shrewdest clinicians who ever lived, wrote:

"The following are the principal conclusions to which I have been led regarding phthisis or tubercle—

"*First.*—That tubercle is a true zymotic disease, of specific nature, in the same sense as typhoid fever, scarlet fever, typhus, syphilis, etc., are.

"*Second.*—That, like these diseases, tubercle never originates spontaneously, but is perpetuated solely by the law of continuous succession.

"*Third.*—That the tuberculous matter itself is (or includes) the specific morbific matter of the disease, and constitutes the material by which phthisis is propagated from one person to another, and disseminated through society.

"*Fourth.*—That the deposits of this matter are therefore of the nature of an eruption, and bear the same relation to the disease, phthisis, as the yellow matter (the stools), for instance, of typhoid fever.

"*Fifth.*—That by the destruction of this matter on its issue from the body by means of proper chemicals, or otherwise, seconded by good sanitary conditions, there is reason to hope that we may eventually, and possibly at no very distant time, rid ourselves entirely of this fatal scourge."—*The London Lancet*, Oct., 1867.

Dr. W. H. Webb, of Philadelphia (who entertained the idea "which came into his head unbidden, so to speak, while walking on Observatory Hill near Clifton, in the second week of August, 1856"), in a paper, "Is Phthisis Pulmonalis Contagious, and does it belong to the Zymotic Group?" read before the Sydenham Medical Coterie of that city in 1878, quotes from Hippocrates, Galen, Riverius, Morton, Van Swieten, Baume, Cullen, Heberden, E. Darwin, Goode, S. G. Morton, Bright and Addison, Laennec, Hastings, Drake, Walshe, Copland, J. Frank, Hufeland, and Hildebrand, in support of this view. Dr.

E. Holden, in the same year, in response to inquiries addressed to 250 leading physicians of the United States, obtained from 126 an expression of belief in the communicability of consumption. Yet, notwithstanding this array of authority, physicians generally are so little convinced of the infectiousness of tuberculosis as to experience and express surprise when the statement is made anew from time to time.

What has especially prevented the general acceptance of the infectiousness of tuberculosis is the widespread belief in the almost exclusively hereditary transmission of the disease. Of this transmissibility there is no shadow of doubt, but, fortunately for the human race, heredity does not account for even the majority of cases. Because members of the same family succumb to the disease, is not so much proof of the influence of heredity as of contagion, for a like implication is seen in all kinds of infectious disease among individuals in close association. And it is the observation of every practitioner of experience that a large contingent of cases develop entirely independent of heredity. To invoke the possible existence of the disease in the remote ancestry or distant relationship is a safe refuge, of course, because no generation escapes in all its members; but such an explanation savors too strongly of the metaphysics of the middle ages to satisfy the more accurate demands of modern times. That phthisis is acquired oftener than inherited is a fact which becomes more patent every day.

The pathologists finally reached the same conclusion in the slow evolution of their investigations. At first consumption was an ulceration of the lungs. Then solid masses were encountered, nodules or tubercles. The nodules were observed to be of smaller and smaller size, even down to granules. So, Hippocrates and Galen speak of ulcerations and suppurations. Sylvius, 1640, first found the nodules which he believed to be pulmonary glands. Bonnet, 1679, speaks of small tubercles which Mangetus, 1700, compared to millet-seeds. Baillie, 1793, distinguished tubercles from pulmonary glands, and Bayle, 1810, recognized them as developed independent of ordinary inflammations. Laennec, 1810, shows that the different kinds of tubercle, which are new formations, represent different ages of the same products. "The recent progress of anatomy," he says ("De l'auscultation médiate," etc., p. 10), "has shown that these cavities are due to the softening and consecutive evacuation of a *particular kind of accidental production* (italics ours), to which modern anatomists have applied especially the name of *tubercle*, a term used in general, hitherto, for every kind of tumor or abnormal protuberance." Rokitansky, 1842, like Louis before him, adopted the view of Laennec, that tubercles are neoplasms, and are consequently specific and, *sui generis*, a support, as Ruehle remarks, which "seemed to at last definitely prove the specific nature of phthisis."

Such was the prevailing doctrine regarding tuberculosis up to the time of Virchow, 1847. This distinguished pathologist claimed to demonstrate the development of tuberculosis from any caseous matter, and caseous matter in turn from any necrobiosis of tissue. The view so clearly presented by Carswell, 1813, that consumption might result from any ordinary inflammation was thus reinstated, and at the hands of Niemeyer, 1867, a clinician of the cellular pathology school, so plausibly elaborated as to set back the specificity of tuberculosis for several decades. According to Niemeyer a catarrhal pneumonia developing in a healthy constitution has its effused products undergo fatty degeneration and absorption, with resolution of the disease; but, developing in a so-called "vulnerable" constitution, the inflammatory products undergo caseous degeneration and remain. The disease is now known as caseous pneumonia (phthisis). The absorption of the caseous matter in turn produces a peculiar blood-poisoning which is known as tuberculosis. So, tuberculosis was a tertiary factor incident to the absorption of caseous matter, itself a secondary factor incident to a catarrhal inflammation in a vulnerable constitution. These conclusions, as consecutively put as the chain of catastrophes in the house that Jack built, passed into general favor at once and were quoted on every hand. But they were fatal to any further progress in the domain of tuberculosis. A tuberculous patient was doomed from the start, because he had already in his original construction a "vulnerable constitution," and he was hurt in the vulnerable part.

As might be well imagined, clinicians generally could not rest content with this gloomy outlook upon a disease which destroys, according to Hirsch, two-sevenths of mankind. We may, therefore, readily appreciate the thrill which was occasioned everywhere by the first experiments of Villemin in 1865, demonstrating that tuberculosis, in any of its products, was inoculable. Tuberculous matter introduced beneath the skin of a rabbit or guinea-pig produced tuberculosis. So-called control experiments were generally instituted at the hands of numerous observers. From these experiments it seemed to be proven, first, that the disease thus induced in lower animals was not the tuberculosis of man; second, that other noxious agents, like decomposing meat, or even innocuous substances, like elder pith or india rubber, would produce the same symptoms; and, third, that the so-called tuberculosis thus induced was the result simply of the absorption of caseous matter produced in any way. The death-blow seemed thus to have been dealt to the infection theory, and the therapy of tuberculosis was left in the same deplorable state as before. It remained now only for the pathologists, as a question of purely scientific interest, to develop caseous matter in the lungs. Given the caseous matter and the problem of tuberculosis was solved. Soon it came to be observed, however, that croupous pneumonia, that is, our so-called frank pneumonia—in our nomenclature lobar pneumonia—never terminated in caseous degeneration. Since the publication of the remarkable paper by Juergensen, lobar pneumonia, far from being a frank, typical inflammatory disease, has become an acute infectious disease of cyclical course, with a crisis, a typical temperature curve, and a definite duration. Croupous pneumonia had therefore to be ruled out of the etiology of tuberculosis. Next it was seen that catarrhal pneumonia, our lobular pneumonia, or sometimes our capillary bronchitis, seldom or never furnished the desired caseous matter for further infection. So it was left then for Buhl to invent or discover a new form of pneumonia, to wit, the desquamative pneumonia, whose object it was apparently to develop the caseous matter.

The subject of tuberculosis stood now about as follows: According to the views of the pathologists, with Buhl at the head, phthisis or tuberculosis was a resorptive disease. It resulted from the absorption into the blood of caseous matter. This resorption might occur at any time, and when it did occur, it was necessarily fatal in its effects. According to the clinicians, with Niemeyer at the head, there was no therapy for the disease beyond a general building up of the body, including everything that is meant by a more perfect hygiene. Bad air and bad food, bad sewage, overcrowding, any defective hygiene, might cause the disease, and the only hope for mankind lay in sanitation.

So phthisis was a disease without a therapy. Symptoms might be met and prostration relieved for the time being, but there was no future for the victim of the disease. True, clinicians had occasionally observed that most individuals recover from the disease; that post-mortem examinations upon individuals dead from other affections, or killed by accident, showed the presence of encysted or degenerated tubercles at the apices of the lungs, sometimes unsuspected during life; that it was exceptional, in fact, to find lungs free from all tuberculous deposit. The view now began to prevail that phthisis was a self-limited disease; it might run a definite course, of indefinite duration, and then be expelled from the body, provided the body could be in the mean time sustained.

Some inexplicable cases of basilar meningitis began to be observed. For the most part, brain tuberculosis had been considered as a typical illustration of the heredity of the disease. In every case, or in every suspected case, the practitioner would make anxious inquiry regarding ancestral phthisis. But cases were encountered where no such antecedence appeared. Thus, Reid reported ten cases in the *Berlin. Wochenschrift*, Sept. 18, 1878, to all of which the disease had been clearly communicated by a phthisical midwife, who subsequently died of the disease, and in none of which could there be traced any history of hereditary phthisis. Tubercular meningitis, like bone tuberculosis, had hitherto been regarded as an invincible argument against any reception of the disease from without, and the occurrence of cases of either among individuals free of its inheritance constituted a stumbling block in the pathology of the disease, which could only be surmounted by the theory that tuberculosis might result from any ordinary catarrhal or traumatic inflammation. A little later came the observation of Tappeiner, to the effect that dogs shut up in a box whose air was impregnated with atomized phthisical sputa, inevitably died of the disease. Jacobi had long ago reported the case of a dog who had died of tuberculosis from eating the sputa of his phthisical master, and occasional cases of like import have found their way into medical journals from time to time since, the last in a recent number of the *British Medical Journal*. Here was now a new insight into the nature of tuberculosis. Cohnheim and Solomonsen now made their famous experiments upon rabbits, and found that tuberculous matter introduced into the eye or other organ invariably produced first local and afterward general tuberculosis, and that tuberculosis could be produced in no other way. What made these experiments especially valuable was the fact that they were undertaken in the spirit of scepticism. For Cohnheim was himself the most authoritative opponent of the specificity of tuberculous virus when the theory was first promulgated by Villemin. Cohnheim found that the introduction of the smallest particle of tuberculous matter through a lineal incision into the eye of a rabbit was followed, after a period of incubation of about six weeks, by an eruption upon the iris of minute nodules "which increase to a certain size, and then undergo caseous degeneration, to be followed, in turn, in the course of months, by a more or less general tuberculosis of the lungs, peritoneum, and various other organs." Cohnheim is so convinced of the inoculability of the virus that he proposes to utilize it as a diagnostic criterion of tuberculous products. We are unable, he says, to differentiate tuberculous matter with certainty in any other way. "Neither the nodular form, the histological structure, the occurrence of giant cells, caseation, nor all these circumstances together, are absolutely characteristic of tuberculosis. *The only absolutely perfect and certain criterion is the capacity of infection.*" The products of local tuberculosis are just as inoculable as those of general tuberculosis, hence the disease process is essentially the same. Phthisis pulmonalis is a local tuberculosis. The ingestion of its products, or the ingestion of tuberculous virus with the food, as in the milk of tuberculous cows, begets intestinal tuberculosis. Scrofula is a more or less local tuberculosis, the virus being still confined to the lymph glands in the vicinity of the place of its absorption. The caseous swellings of the cervical lymph-glands are thus explained. According to Weigert, the virus may reach the brain by inspiration through the cribriform plate of the ethmoid bone, and thus induce basilar meningitis first. Primary bone and joint tuberculosis presuppose the existence of the virus in the blood, and the extravasation of it in greater quantity at the affected regions. The implication of the pulmonary veins or thoracic duct—conditions encountered in post-mortem examinations of such cases—lead to a profuse inundation of the juicy organs with tuberculous virus, and account for the cases of rapid and universal dissemination, the cases of so-called acute miliary tuberculosis.

The whole question of the contagion of consumption, *i. e.*, of the specificity of the tuberculous virus, hinges upon its inoculability, and of this capability there is now scarcely room for doubt. Harnsell (Graefe's *Archiv.*, 25, part iv., 1879) mentions cases of tuberculosis iridis, as reported by Perls, Manfredi, Koester, Leber, Samelsohn, Sattler, and Angelucci, and adds three cases from his own (Göttingen) clinic. He thus establishes the fact of infection of the iris. After mentioning the experiments of others in direct and indirect inoculation of the eye with tuberculous matter, the author then proceeds to detail his own. He found that the insertion of tuberculous matter into the anterior chamber of the eye invariably inoculated the iris. The cornea and conjunctiva, moreover, could be inoculated directly, and in all cases the tuberculous matter inserted "disappeared by the third day, and after from fifteen to twenty-three days of incubation tuberculous collections showed themselves."

The fact that these collections or masses were tubercular was proven after the method of the chemists in recognition of the action of a poison, that is, by insertion into the bodies of other animals. Particles or portions were put into the abdominal cavities of dogs and guinea-pigs. The dogs died of suppurative peritonitis. The guinea-pigs were kept under observation for three months and then killed, when "all the internal organs and the skin were found, without exception, to be filled with deposits of miliary tubercles." Cohnheim tried in vain to excite tubercles in the iris "by introducing into the anterior chamber portions of non-tuberculous animal tissues of the most varied kind," and Harnsell failed to inoculate tuberculosis with fresh trachomatous matter. "On the other hand, the tuberculous matter used, when introduced into the peritoneal cavity, excited, in turn, general tuberculosis of all the organs."

"*So in tuberculosis,*" as Cohnheim concludes, "*everything depends upon the virus. We discover at all points the closest analogies between tuberculosis and syphilis. Both require, above all things, infection, transmissibility of the disease from person to person.*"

This comparison between tuberculosis and syphilis is exceedingly happy. The conduct of no other infectious disease so closely resembles that of tuberculosis, or so completely clears up the perplexities which beset the disease. To compare tuberculosis with small-pox, for instance, would be fatal to our understanding of either, while tuberculosis and syphilis present so many analogies as to have even led some pathologists to regard one as a form or a product of the other, a conception which is, of course, radically wrong.

Tuberculosis, like syphilis, depends then upon a specific virus which must reach a mucous membrane or a broken surface, to be absorbed and induce the disease. Laennec was convinced that he had inoculated himself once with tuberculosis, just as many an unfortunate practitioner has since inoculated himself with syphilis, by a wound from a saw in making a post-mortem examination upon a phthisical patient. But more fortunate than they, he succeeded in destroying the tuberculous nodule at the start with the butter of antimony.

Syphilis, for the most part, reaches the body through the organs of generation, while tuberculosis is breathed, for the most part, into the lungs, or is swallowed with food, as with milk, the most frequent cause of tuberculosis in childhood.

The first symptoms of each affection are local; in syphilis, at the genital organs, in tuberculosis, at the lungs or in the intestinal canal. From the point of absorption the disease next invades the lymph glands in the nearest vicinity; in syphilis, the glands in the groin, in tuberculosis, the bronchial and mesenteric glands. Passing these glands, or being absorbed into the blood, both diseases become general.

Both diseases may be transmitted by heredity, and both diseases, thus transmitted, may lie latent for a time, for a longer time in tuberculosis, to develop at a later period. During the latent stages, both diseases impair the processes of nutrition, and deform the development of the body. The victim of latent syphilis has notched teeth, falling hair, derangements of digestion, etc. The victim of tuberculosis shows the aspect of scrofula, or has the sunken, elongated chest, ossified ribs, the thorax paralytica; he has also clubbed fingers, and the other well known signs which constitute the *phthisical habitus.* This habitus is therefore an effect and not an inviting cause of the disease. An individual thus affected is said to have the tuberculous diathesis, just as an individual once syphilized has the syphilitic diathesis. Either disease may manifest itself in its well known symptoms at any time. But latent or manifest, the disease is present, just the same. all the time.

There is, then, no such thing as a predisposition to either disease. Either a man has syphilis or he has it not. Either a man has tuberculosis or he has it not. One man is not more predisposed to either disease than another. Syphilis affects one individual more than another, because its virus finds a better lodgment upon his mucous membranes. Tuberculosis finds also, fortuitously, a better nidus in one case than another. The virus of tuberculosis is lodged in one case and not coughed up, just as in syphilis the virus is secreted and not washed off.

Both diseases may disappear from the body entirely, and a perfect cure may result, but it is impossible to state when such complete eradication has taken place. In syphilis the capability of reinoculation furnishes the only definite information in this regard, a method of trial not so likely to be undertaken in tuberculosis. As a rule, however, neither disease does disappear from the body entirely. What Fournier said of syphilis is true also of tuberculosis, viz., that the diathesis is a period of health interrupted by explosions of the disease. Cazenave said long ago that one does not recover from the syphilitic diathesis, but lives with it as with the lymphatic temperament, and an older writer observed that syphilis strikes with its victims "a truce oftener than a peace."

Both diseases may, and for the most part do leave in the body centres of future infection. From any chancre, plaque, gumma, or other deposit of syphilis, reabsorption may take place at any time, and reinfection with syphilis, or, better, reappearance of external signs. So, from any caseous nodule wherein the tuberculous virus is locked up in temporary innocence, absorption may take place under favoring circumstances and a new outbreak of tuberculous symptoms appear, the quantity of the virus thus set free, determining to great extent, perhaps, the virulence of the symptoms. While the virus is thus locked up the disease is latent, when set free, it is manifest.

While it is true, therefore, of both diseases that they may be inherited, that is, that both syphilis and tuberculosis may affect the ova and spermatozoids as well as every other organ and tissue of the body, it is also true of both diseases that they are in the vast majority of cases not inherited, but acquired. A thorough sifting of the cases will show this statement to be as notoriously true of tuberculosis as of syphilis. So soon as the inoculability of tuberculosis is established, the fact is also established that the disease is acquired oftener than inherited.

With the general recognition of these views, we shall cease to hear of bad air and bad sanitation as direct factors in the disease. The writer of this article once went so far as to develop tuberculosis from depressing mental emotions. Bad air, food or drink, are productive of tuberculosis only when they contain the virus of the disease. In other respects they are no worse for tuberculosis than for any other disease. Drinking water contaminated with sewage does not produce typhoid fever unless the sewage contain the typhoid germ. So, contaminated air is productive of tuberculosis only when a cause of its contamination is tuberculous virus. Drs. Cotton and Edwards, of the Brompton Hospital for Consumptives, object to the contagiousness of consumption on the ground that but one nurse and one servant died of phthisis in that institution in a period of twenty-one years. Dr. Cotton went so far as to say that "a residence in the consumptive hospital and long continued working in its wards is a very good way, indeed, *not to catch the disease.*" It must be remembered, however, that few institutions were in such perfect sanitation, especially as regards ventilation, as Brompton Hospital. Anyhow, the statement does not count for much else than to show how close an association is necessary to contract the disease. For the same observation has been made with reference to typhoid fever, an infectious disease beyond a doubt. Liebermeister states that up to the year 1865 he had never seen in the hospitals which he visited (Greifswald, Berlin, Tübingen), "a single hospital patient, physician or nurse, attacked with typhoid fever, although such cases are placed in the general wards. And the same author quotes from Murchison to the effect that "during a period of fourteen and a half years in the London Fever Hospital, 2.506 patients were treated with typhoid fever, and during that time only eight cases originated in the hospital."

The specificity of the tuberculous virus is determined in a higher school, and by means more in accord with the principles of science than clinical observation. And the recognition of it clears the field for prophylaxis and opens up a new and more promising outlook for the therapy of the disease.

CONVERGENT SQUINT.

Cause, Results, and Treatment.

By C. A. BUCKLIN, M.D.,
SURGEON TO THE NEW YORK EYE, EAR, AND THROAT INSTITUTE.

(Continued from the MEDICAL RECORD, No. 21, Vol. xvii.)

THE cause of "77 per cent." (Donders) of all cases of convergent squint has been explained. We will now give our attention to cases of squint where refractive errors are not the cause, then pass to cases of *convergent* squint which are sometimes associated with, and dependent upon, myopia (near-sightedness). A person who, from an injury or other cause, has one muscle inflamed and contracted (be the vision good or bad) presents the same muscular condition as one who has simple hyperopic squint.

In the first case, the contraction of the muscle deviates the eye when at rest. If the muscle still preserves its natural contractility, the normal amount of inervation necessary to produce the usual accommodation and associated convergence for near objects will increase the deviation of the eye inward exactly as in hyperopic squint.

In hyperopic squint the eye is deviated inward at first by an abnormal inervation of the internal rectus for the purpose of obtaining distinct vision in the fellow eye, as already described.

In the other case, the increased deviation of the squinting eye has no effect on the amount of accommodation in the fixing eye, or. on the other hand, the amount of accommodation required in the fixing eye would not necessitate any deviation in the other eye *were* the muscle not contracted, which is an important fact and will be considered under *prognosis* and *treatment.*

The majority of blind eyes (although having no incentive to fix upon the observed object) do not wander or deviate from their normal position. Should such an eye have *one* abnormally powerful muscle, I do not think it strange or especially interesting if the eye should wander from its normal position in the direction of this muscle.

It cannot be denied that a muscle during a convulsion may become thoroughly contracted and remain so permanently. No other cause is found for the strabismus, and the history positively states that the eye became turned during a convulsion. If these cases exist they are very rare, and it is somewhat difficult to prove that there is not another element in the case which caused the squint. The accommodation having been reduced from sickness, it is urged that during the convulsion the child discovered for the first time the advantage derived from strongly converging one eye, and therefore continued to squint.

I think, however, that I have seen cases where simple contraction of the muscle during a convulsion caused the squint.

Another rather rare but interesting cause of squint is explained by the following case.

A young man was brought to me to be operated on for strabismus, who showed this interesting peculiarity. He was highly astigmatic and hyperopic. The vertical curve of his cornea was normal, while the horizontal curve was too flat. His father said he could not make out a five-dollar bill without rolling the right eye strongly toward the nose; then, holding the bill straight in front of him, he would be uncertain of its denomination till he carried it far to one side. He overcame the difficulties of having a short eye by strong convergence. He increased the refracting power of the horizontal meridian of his left eye, by looking obliquely through the lens. How this is brought about will be seen by looking obliquely through a magnifying-glass. The tendency of the eyes to deviate vanished as soon as a glass was given with which he could see without going through this manœuvre. Several, without any idea as to the cause of this peculiarity, were anxious to operate on it.

Myopia (short-sightedness) is supposed generally to be connected with strabismus divergens. But it not unfrequently happens that the highest degrees of strabismus convergens are found in myopic persons.

I have observed this condition five times in my private practice during the past year. While, on the other hand, during a somewhat extensive clinical experience, I never was fortunate enough to see a case of the kind. Horner, of Zürich, told of a case he had observed, which had been treated at Guy's Hospital, London, for six months with iodide of potassium, as a case of paralytic squint.

This explains why there is so much variance of opinion as to the frequency of this form of squint.

As there is no satisfactory literature upon myopic squint, you will excuse me for omitting what I consider to be unsatisfactory reasoning, and detailing a few interesting cases. We will exclude all cases where convulsions could have been the starting-point of cortical cataract, and at the same time produced a contraction of the internal rectus, and also all cases where inflammatory action could have affected the muscles. We will simply try to demonstrate that there are high degrees of convergent strabismus existing in myopic persons, who never would have had it had they not been myopic.

Graefe described a form of strabismus convergens caused by the far point of distinct vision being so near that the constant efforts to produce the *necessary convergence* led to an abnormal development of the internal recti muscles. At all distances between six and twelve inches both eyes were directed at the object. As the object was removed beyond this distance there was double vision, and one eye then deviated inward. Mauthner says he never has observed a case of the kind, but has seen strabismus convergens where one eye was normal and only the deviating eye was *near-sighted*, but he also adds it was amblyopic, therefore the connection between strabismus and myopia is not clear to him. I have never seen a case like his, and I doubt very much, from his description of the case, if there were any connection between the myopia and the squint. If there was a connection in his case between the myopia and the squint, I am sure there is no man in the world to whom this connection is clear.

He says the eye is myopic and *amblyopic.* I am therefore inclined to believe that the eye wanders in the direction of an unusually powerful muscle as a result of its amblyopia, or has been drawn over by inflammatory shortening of the muscle. Some will say it deviated as the result of "*mechanical*" causes, the gradual lengthening of the globe resulting from the myopia.

The following family history is, however, sufficient to make one look upon the theory of mechanical causes resulting from a lengthening of the globe with mistrust:

The father is far-sighted, and has been operated upon in both eyes for strabismus convergens. The mother has myopia $\frac{1}{3}$; does not squint, and has hardly a normal amount of mobility in the direction of the internal rectii.

The first child is eighteen months old, has about the same amount of myopia, and has strong convergent squint. The internal muscles of both eyes are shortened, and their inward mobility is greatly increased. He can direct both eyes at a given near point. If this point is removed, he fixes upon it with either eye. The convergence, as a matter of course, increases in the deviating eye in the same proportion as it decreases in the fixing eye. When the observed object is brought nearer than a certain point, the eye with the greatest convergence appears to be the fixing eye, which never is the case in any other form of strabismus. This case corresponds well with Graefe's description. He says, however, that beyond a certain point objects were seen double. Owing to this child's age, I acknowledge my inability to say whether he sees double or not. Judging from the statement of an adult who was in exactly the above "fix" and did not see double, I doubt his seeing double.

The second child is nine months of age; very myopic in the right eye; less so in the left. Right eye converges decidedly; left eye only slightly. There is a point where both eyes fix. Beyond this point she fixes with the left, and nearer than this point she fixes with right eye. As she is only nine months old, she cannot answer questions regarding double vision, and I cannot answer them for her.

These questions very naturally follow: If the mother is as near-sighted as the children, why don't she squint? What is discoverable in the children that is not found in the mother? The mother was myopic from earliest childhood. The mobility of her eyes inward is rather less than it should be. Her internal recti have never been sufficiently strong to *tempt* her to try and converge for objects two inches distant. She has not learned to exclude one eye by turning the head and cutting it off with the nose; neither has she learned to close one eye when she observes near objects. We must therefore conclude that she converges both eyes at the nearest convenient distance, and contents herself with seeing objects through circles of diffusion or indistinctly. The point at which she observes an object is farther away than her far point of distinct vision. The children have extensive mobility of both eyes inward. They are provided with muscles which are sufficiently powerful to enable them to converge for the point where they see most distinctly. By bringing these muscles into constant use they have become hypertrophied, and they can no longer relax them sufficiently when the eyes are at rest to allow the optical axes to become parallel.

There is no unusual lengthening of the globes of the children's eyes as compared with the mothers. I think this factor has been given a much more important place, than it deserves, in the production of strabismus in myopic subjects. *A squint due* to paralysis of one of the recti muscles presents (so long as the paralysis is present) a very different picture from any form of squint caused by contraction, hypertrophy, or shortening of one of the recti muscles. The patient either sees double or gives a history of having seen double for a long time.

In convergent strabismus due to the shortening or contracting of a muscle, you do not get any history of double vision. If one eye "fixes" upon a distant object, the other eye has a given convergence. If the observing eye be covered, the converging eye will assume a normal position, will fix upon the object, and the covered eye will make a corresponding convergence.

This is not the case in paralytic squint. When the fixing eye is covered, the squinting eye does not assume its normal position, and the fixing eye does not make a corresponding convergence.

In cases of paralytic squint the same conditions may finally exist which are found in simple squint. The paralyzed muscle may nearly recover from its paralysis, so that there is only a slight preponderance of the internal over the external muscle. When these conditions are developed, this form of squint may be operated with the same advantage as simple squint. But if one operates while paralysis is present, he will only do harm.

There still remains a possible form of squint. If the visual spot should, during development of the eye, become situate unusually near the nasal side or on the nasal side of the optic nerve, it is plain to see that the eye must converge before it can fix upon a distant object. Graefe reports a case of the kind *Archiv für Ophthalmologie*, Band I., Abth. I., p. 435).

I never have seen a case of the kind, and never have seen any one who had. However, should convergent squint depend upon incongruence of the retinas, it is easily diagnosed. Cover the eye which is apparently the fixing one. If paralysis is not present and the other eye does not assume a normal position when observing a distant object, asymmetry of development or incongruence of the retinas must be present. That being present, operation is out of the question, as double vision would immediately follow if any change in the relative position of the eyes were attained.

Having considered the causes of squint from a purely mechanical stand-point, we will next consider it from a purely clinical point under the head of *Results, Prognosis, and Treatment.*

247 EAST FIFTIETH STREET.

(To be continued.)

Corrections of errors in RECORD, No. 21, vol. xvii. —Conditions removed which prevent (not present) squint. Anterio-posterior (not anterior posterior) diameter.

* * *

A SPRAY OF PERCHLORIDE OF IRON IN EPISTAXIS is recommended as often avoiding the necessity of plugging the nares.

ANTE-COLUMBIAN EXISTENCE OF SYPHILIS. — Dr. Gustav Brühl, of Cincinnati, has lately presented some new evidence of the ante-Columbian existence of syphilis in America. It consists in the discovery among old Mexican manuscripts of certain epithets which were applied to the Mexican deities. Thus one of them is called Tepeu, or syphilitic. Another god was called El Buboso, or the syphilitic. Dr. Brühl thinks also that he has discovered evidence of syphilis in prehistoric bones.

Reports of Hospitals.

CHAMBERS STREET HOSPITAL, N. Y.

Reports of Practice and Peculiarities of Treatment.

Service of Dr. W. T. BULL.

Reported by Geo. E. Moore, M.D., House-Surgeon.

DISLOCATION BACKWARD OF LEFT CARPUS.

A heavy weight fell on P. M——'s wrist, which was on the ground. The deformity was marked, and just the reverse of the "silver fork" of Colles, there being a marked swelling over the anterior lower surface of the forearm at the situation of the lower end of the radius. The hand was much displaced to the ulnar side, the depression being on the posterior surface of the forearm. All voluntary movements at wrist were abrogated. Manipulation showed that the the lower articular end of the radius was firm on the shaft; all its prominences could be mapped out. The lower end of the ulna could not be felt, owing to displacement of the hand. No crepitus on local mobility; on the contrary, the joint was stiff. After reduction of the dislocation, the landmarks about the wrist were all in a normal relation to each other and all perfectly firm.

Under ether the hand was carried well backward and then brought rapidly forward, while firm traction was made. This reduced the dislocation, and there was no tendency to reproduction.

Recovery rapid; in twenty days a slight stiffness at the wrist was the only remains of the accident.

SKIN-GRAFTING.

T. B——, æt. 32, applied for treatment February 13, 1879, suffering from erysipelas of the leg and foot thirteen days old. The disease rapidly advanced, and by the middle of March the destructive changes denuded the leg of its superficial structures from the malleoli below on each side to the patella above, the entire circumference of the leg being deprived of covering. From the lateral aspect of this raw surface a long strip of granulations ran up to the greater trochanter of the femur, the site of a sinus which had been split up. At this time the patient's general condition was very bad, and it was not until about the first of April that the granulating surface was in good enough condition to promise success from grafting. From this time skin-grafting was regularly performed up to the middle of September, and on October 1st the skin had completely covered the leg and thigh, 1,200 and odd grafts being used. The largest number planted at any one time being 228, and the smallest 5.

The grafting was commenced from above downward along the anterior surface of the tibia. On May 16th there was a strip of new skin one inch wide which united the skin at the patella with that over the ankle. Grafts were planted on each side so as to surround the leg. June 17th the strip was six inches wide. July 13th all of the outer, anterior and inner surfaces of the leg were covered with new skin, excepting two circular openings one inch in diameter on the inner surface. This left a narrow strip on the posterior surface of leg one and a half inch broad and ten inches long, all that remained of the former large granulating surface. October 1st found the entire surface covered with new skin—six months after the grafting was first commenced. On November 15th the patient was discharged cured.

The grafts were taken by picking up the superficial skin, down to and including the papillary layer, so as just to show dottings of blood on the point of a half-curved needle, and snipping it off with sharp scissors. Size of graft about as large as the head of a two-inch pin. The raw surface of the graft was laid on the granulating surface and covered with rubber tissue dipped in solution of thymol, of which the dressing consisted.

A number of the grafts were taken from patients in the hospital, some being from a colored man, and it was found that these at first lost color, then grew darker again, but finally lost all pigment. Grafts were taken from amputated arms and legs as long as four hours after operation, and invariably took well. Two hundred and twenty-eight were taken from a leg amputated for compound fracture, and of these only five did not take.

The grafts had a wonderfully stimulating effect upon the edges, which, when sluggish, would, under their influence, spring up to a new life.

The grafts apparently grew from a proliferation of their own cells, as seen in the black grafts mentioned above in which the black patches actually grew longer. The grafts near the edges grew most rapidly; each graft has a maximum of growth, usually about the size of a five-cent silver piece, then the edges grew sluggish and ceased to advance. The new skin has very little tendency to contraction as usually seen in cicatrices.

FRACTURE OF POSTERIOR LIP OF THE ARTICULAR SURFACE OF THE RADIUS, WITHOUT FRACTURE OF STYLOID PROCESS—"BARTON'S FRACTURE."

That such a fracture is ever seen is doubted by so many, the particulars of the following case may prove of interest.

I. M——, falling, struck on the palm of the hand which was over-extended, twenty minutes before examination. At the latter time there was but slight swelling about joint. No deformity and no ecchymosis. Voluntary movements at wrist painful, especially over extension point. On manipulation by grasping posterior lip of the articular extremity of the radius, and making a lateral sawing motion, a distinct mobility of a fragment of bone could be felt. This was made the more apparent by a softened condition of the tissues, due to the contusion. The mobility was appreciable on an up-and-down motion, as well as on a lateral one. The crepitus was long and marked. There was at the point of fracture a considerable local tenderness. The styloid process of the radius was normally firm, and could be moved only with shaft of bone. Patient did not return for treatment.

FRACTURE OF THE PATELLA AND OS CALCIS FROM INDIRECT VIOLENCE.

While W. R—— was carrying a heavy load downstairs he felt his knee give way. Two years before he had had the same patella fractured. It united well and caused no lameness. On examination a transverse portion of the right patella was found, the upper and larger fragment being drawn up two inches. There was also fracture of the os calcis of same side, the tuberosity being chipped off and drawn up by the muscles of the calf.

Treatment.—Adhesive straps held fragments of both fractured bones in position. Plaster-of-Paris splint applied at once from toes to upper part of thigh, limb, and foot being elevated in an extended position. Second splint three weeks later.

Result.—A ligament one inch long united fragments of patella. Firm union in the os calcis, with considerable thickening about the point of fracture. Motions in ankle and knee perfect. Discharged thirty-seven days after the accident, and ordered to wear posterior splint of leather, while walking, for one month.

DISLOCATION OF BOTH HUMERI.

A. W—— was seized from behind by two thieves, his forearms being flexed, his arms being drawn upward, outward, and backward. On examination a sub-coracoid dislocation of each humerus was found. An interesting point in the examination was, that, on each side, both before and after giving ether, Dugas's dislocation-test proved unreliable; for, the hand of the dislocated arm being on the opposite shoulder, the elbow could easily be made to touch chest-walls. The patient, it may be stated, was neither stout nor thin. Both bones had been dislocated before this accident, but never at the same time. Reduction was easily accomplished under ether by drawing the arm away from body to a right angle, and then making direct pressure on the head of the bone toward the glenoid cavity.

Progress of Medical Science.

Operative Treatment of Pyo-nephrosis Calculosa.—Dr. Petersen (*Berlin. klin. Woch.*, April 5, 1880) reports a case of this kind, which terminated favorably, the patient being restored to health. A woman, thirty-nine years old, had suffered pains in the right hypochondriac region for about eight years. Her appetite and digestion had remained satisfactory; her menstruation and other functions were not disturbed. In the fall of 1877 the pains became more severe, sometimes intense colics came on, and abdominal enlargement was also noticed. The urine was generally turbid, and showed a deposit; sometimes, however, it appeared normal. Febrile action was now developed, her appetite was lost, a harassing cough supervened, and the patient became rapidly emaciated. Examination revealed fluctuation in right side, and a large tumor could be distinctly palpated. The symptoms, together with the results of examination, pointed to the right kidney as the probable seat of the affection. An exploratory puncture with a hypodermic syringe, armed with a long canula, was made, and a thick yellowish fluid was found. The microscope revealed epithelial cells in a condition of fatty degeneration, crystals of uric acid, red globules, and numerous pus-corpuscles. About a quart of this matter was then withdrawn by means of the aspirator. The canula on being pushed inward came in contact with a hard body, and the presence of renal concretions was thus made apparent. Owing to the unpromising surroundings of the patient, and the inability to remove her to a hospital, a radical operation was deemed inadmissible. It was determined, therefore, to create a fistula and then practise gradual dilatation of the same. The aspirating canula was allowed to remain in situ, and laminaria tents of gradually increasing calibre were successively introduced Antiseptic precautions were employed during all these procedures. After some time the finger was introduced through the opening, but the concretions could not be removed by this means. With the aid of a strong dressing-forceps, fragments of the calculus were readily removed. This operation was repeated, and after the renal pelvis was found to be cleared of all remaining débris, drainage-tubes were inserted, and the wound irrigated with carbolic acid solution. The subsequent course of events was quite satisfactory, the purulent discharge at first very profuse, gradually grew less, the wound slowly closed, the drainage-tubes were removed six weeks after the operation, and the fistula was at length allowed to heal. The urine, however, still remained turbid, and several weeks later some pain was again experienced. This induced the patient to thrust a knitting-needle into the newly formed cicatrix, and some pus was said to have escaped. The patient, apprehensive of a return of the pains, insisted on keeping the fistula artificially opened. Eighteen months have elapsed and she continues in good health, discharging all her domestic duties without the slightest discomfort.

Diabetes Insipidus Treated with Ergot.—In the *British Med. Journ.*, Dec. 25, 1875, is recorded the case of a man who suffered from diabetes insipidus, and was successfully treated with ergot, after the failure of jaborandi and other remedies. Half a drachm of the liquid extract of ergot, every three hours, reduced the urine in twenty-four days from twenty pints to a pint and a half; increased its specific gravity from 1,002 to 1,017; and removed the excessive thirst and other distressing symptoms from which he had suffered for two years. A few days ago the reporter of the case, Dr. Murrell, accidentally met the patient and was told that he had never had a day's illness since he left the hospital, four and a half years ago. His urine was normal in quantity and he did not suffer from thirst. He was strong and well in every way, and able to do a good day's work. The ergot cured him completely, and Dr. Murrell adds that it is to be regretted that this mode of treatment is not more commonly employed in these cases. —*The Brit. Med. Jour.*, May 8, 1880.

Follicular Adenoma of the Conjunctiva.—M. Gosselin (*Gaz. des hôp.*, April 29, 1880) describes what is called by him a new variety of conjunctival tumor, of benign character: A youth, 16 years old, was subject to repeated attacks of the common affection known as hordeolum. These would sometimes end in slight suppuration, or would pass off by resolution. The formation of the tumor in question was attributed by the patient to the prolongation of one of these hordeola, which, failing to undergo suppuration, became chronic, as it were. For about a year there existed an uncomfortable swelling on the free border of the right lower eyelid. Redness and induration also became manifest, but the tumor never bled, and at no time presented ulcerations. It was painful on pressure. It kept up a continual congestion of the inferior lid, but never gave rise to bulbar conjunctivitis or corneal affections. Notwithstanding its small size, it became the occasion of considerable discomfort. It did not present the appearance of a conjunctival polypus, nor did it at all resemble epithelioma. Sarcoma or fibrous tumor was thought of, but the histological examination proved otherwise. It was found to consist of the hypertrophied follicles of the Meibomian glands, presenting glandular vesicles with heaps of epithelial cells. The etiology of this follicular adenoma of the conjunctiva appeared from its minute structure. The repeated inflammatory attacks led to an abnormal development of the pre-existing gland follicles, and quite probably also to their new formation. Treatment by compression and astringent collyria was deemed too tedious. Accordingly the projecting mass was snipped off with curved scissors and the desired effect obtained.

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STUDYING PHTHISIS.

These are troublous times to the student who wishes to gain clear pathological ideas on the subject of phthisis. As regards this particular question, the educational vicissitudes of the physician who began his studies, say, a decade ago, have been something like the following: He was probably first brought to believe the views of Virchow and Niemeyer, that chronic phthisis is a scrofulous inflammation of the lung, with which tubercles might or might not be associated. He distinguished catarrhal and fibroid types, according as cheesy pneumonia or connective tissue proliferation predominated. There was no such thing as chronic tuberculosis properly so called; and acute tuberculosis was rarely a synonym for acute phthisis, except among children. Tubercle was put quite in the background.

Being well grounded in these views, he could scarcely escape some confusion upon learning, from Ruehle, that, clinically and pathologically, chronic phthisis has three different types, these being the fibroid, the broncho-pneumonic and the bronchitic. The scrofulous diathesis is at the bottom of the second and third, and perhaps also of the first; but the tubercle is still ignored as a primary factor. Having mastered the distinctions of Ruehle, he turned perhaps to Rindfleisch. Here he learned that phthisis begins generally with a bronchitis. This, acting upon a scrofulous system, excites a crop of tubercles at the entrance to the air-vesicles, and these form a tubercular infiltration which is the anatomical basis of the disease. The future progress is, in part, that of a cheesy pneumonia, but the whole process is essentially a tuberculous one, and that name should be used.

As if to still further demoralize the investigator, a place in Reynolds's system of medicine is given to the views of Dr. Bennett. This acute pathologist believes in tubercle with all his heart, but not in German tubercle. It is not a cellular neoplasm, but a coagulation of the molecular blastema transuded from the blood. This causes all the anatomical appearances found in the phthisical lungs. There is, according to him, no such thing as cheesy pneumonia.

Very recently Professor Cohnheim has announced that tubercular phthisis, as well as what has been known as catarrhal phthisis, is the result of a specific infection, the tubercular virus; that phthisis is closely analogous to syphilis in its pathological history. We have reached again the apotheosis of tubercle, and the anxious learner is more than ever in despair. A little more darkness is turned upon the subject in a recent lecture by Dr. Wm. Pepper. He gives us an additional form of phthisis, the croupous. This with the tubercular, catarrhal, and fibroid, makes four in all. It is a classification that is entirely unwarranted and can only add to the student's perplexity.

We advise the student to stick to his Niemeyer and give cod-liver oil, while waiting for the better settlement of the pathology and classification of phthisis.

THE PHYSICAL INJURY TO SHOP-GIRLS.

The subject of the injury done to shop-girls by their long hours of compulsory standing has been agitated with some good results in Dublin, London, and other English cities. It is an old question, and has been often and fruitlessly discussed in New York. There is no reason why it should be allowed to rest, however, until some result is accomplished here, and we therefore bring up the matter now.

There are two ways in which some reform can be brought about as regards this form of cruelty to women. One is by appealing to the humanity of the shopkeepers and of the ladies who shop; the other is by enacting a law limiting the number of hours per day in which shop-girls shall be compelled to stand upon their feet.

We have but little faith in the appeals to humanity. They have been often enough made; but "business is business" with the heads of the houses, and individuals must adapt themselves to the inexorable laws of profit and loss. As for the ladies, they must know and see every new thing.

It is possible, however, for the State to come to the rescue and to regulate the matter by law. And in this way alone is there likely to be any relief obtained. From various communications made to the press in this country and England by the shop-girls themselves we gather that they do not hope for redress except in this way. In order that any legal measure may be enacted, however, it will be necessary to have positive statistical evidence from physicians. We cannot put the matter better than by quoting part of a joint letter from several shop-girls to the *New York Herald* of recent date:

"In answer to the 'Shop-Girls' Wrongs,' I would state that an effort tending to ameliorate their condition was made some time ago, and has not been given up, although hindered very much by the young ladies themselves, as they are unwilling to give any information for fear of losing their positions. After considering the subject, we are convinced that the only way to reach the root of the matter is by law. Proprietors who are blind and deaf to the sufferings of their own employees cannot be reached by sympathy, but by law.

"In order to arrange the matter in a legal form, it must be proved that the standing of saleswomen for nine and a half hours is an injury to the commonwealth. Statistics proving the sad effects that have arisen from continued standing in a small space in our own stores is the basis upon which the whole agitation of the question depends. It is with the view of obtaining such information from physicians and saleswomen for use in preparing and advocating the passage of a law remedying these evils that I write this letter."

There are probably hundreds of physicians in this city who could give positive evidence upon the above points. We should be glad to have the subject discussed and to receive all the facts that might be contributed.

This is eminently a matter for the medical profession to take up; and if the evils are anything like what it is currently believed they are, it is due that the profession lend its help to see that they are righted.

THE ASSOCIATION FOR THE PROTECTION OF THE INSANE.

At the Annual Conference of Charities and Correction, held in Cleveland a short time ago, an entire day was given up to discussing the subject of the care of the insane. The regular committee made its report upon the question, and half a dozen other papers were read, two of them being by asylum superintendents. The general tenor of the papers and discussions was toward a reform in many of the methods now used in caring for the insane. The various evils which have been pointed out from time to time in this and other journals were acknowledged and condemned. Suggestions of the line in which improvements should be made were embodied in a series of resolutions, unanimously adopted, of which we shall present an abstract hereafter.

Finally, a national association for the protection of the insane was organized. Such an association has been contemplated ever since last fall. It has at last begun an actual existence, and under promising circumstances. It is endorsed by those who have a scientific knowledge of the matter in hand, as well as by those whose intelligent and generous philanthropy has already done so much for the unfortunates. The society will make the question of the care of the insane a national one, and will form a centre for united and persistent action in the cause of reform. We could wish that the name of the association was not so aggressively suggestive. It is understood that the special object is to secure reform in the care and treatment of the insane, not to be the palladium of this class against rapacious superintendents. The two points are not absolutely identical; and it is not necessary to antagonize the superintendents by a pretentious nomenclature.

The prominence given to the subject of insanity at the recent conference indicates how widely the belief in its importance has extended. The conclusions arrived at and the organization effected show that the merits of the question are beginning to be properly appreciated, and give promise of a certain improvement in the future.

PAPERS VERSUS DISCUSSIONS.

There has been a great deal of debate at various times as to which is the more valuable, the papers read before medical societies or the discussions which they excite. The one, it has been said, gives us the results of closer study, the other of wider experience. In the former, opinions are more likely to be warped; in the latter they may be loosely and carelessly given.

A contribution to the settlement of this question was recently furnished at the session of a State medical society, not a thousand miles from a Hoosier centre. The contribution, which comes in the form of a historical incident, occurred as follows: The president opened the meetings with a well-considered speech, in which he forcibly depicted the superior value of discussions over papers. We will not say whether it was a *post hoc* or a *propter hoc*, but at precisely thirty minutes past ten that morning, Dr. A and Dr. B entered into a discussion, dispensing entirely with the hackneyed conventionality of a preliminary paper. The discussion speedily passed from purely scientific to practical, and at last to entirely personal matters; and it became conducted with that warmth of language and freedom from parliamentary and grammatical restraints which occasionally animate the interchange of thought upon the rich prairies of the glorious West. The fact is, or it is related, that Dr. A and Dr. B used very violent language, and finally Dr. A knocked off Dr. B's hat and then kicked him down-stairs. On motion, the matter was referred to the Committee on Ethics.

Upon similar occasions, in other cities, we have known the matter to be referred to the justice, and the actors to the station-house. But this new plan seems a better one, as it is pleasanter for the doctors and enlarges the scope of our various Codes of Ethics.

In this case the committee promptly reported that Dr. A deserved a public reprimand from the president, as having increased the interest, perhaps, but lessened the value of discussion. At the appointed time Dr. A stepped jauntily up to the platform and said that he was ready. He was informed by the President that he was a bad man; not very bad, perhaps, but bad enough. The doctor received the announcement with cheerfulness and self-possession. At its conclusion he thanked the President for letting him off so easily, thanked the society for the interest it had taken in his recent polemical efforts, and in his subsequent ethical condition, and finally thanked the mayor of the city for fining him so large a sum as $31.20, showing as it did that he was no ordinary man, and disturbed the peace in no ordinary way.

Thus ended that particular discussion. As for the light it throws on the question at issue, it tends to fix us in the belief that discussions are, as a rule, non-expert affairs, and are liable to have more of a dramatic and personal than of scientific or practical value. And if discussions must constitute a prominent feature of State Societies, we recommend a closer study and a more rigid application of Cushing's Manual and the Code of Medical Ethics.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 26, 1880.

Dr. T. E. Satterthwaite, President, in the Chair.

REPORT OF MICROSCOPICAL COMMITTEE.

Dr. Peabody presented a specimen for a candidate for admission to the Society.

EXCISION OF ASTRAGALUS.

Dr. Mason presented an astragalus which he had removed from a man aged 57 years, who had sustained in January last a compound fracture of the tibia and fibula just above the ankle, and a dislocation outward of the astragalus. The patient came under the observation of Dr. Mason at the Roosevelt Hospital on the 20th of March last. The fractures had united, but the astragalus still remained dislocated outward. Over the prominent portion of this bone was a granulating surface two and a half inches in circumference, through which bare bone could be detected. The astragalus was completely turned upon itself. The foot was entirely useless to the man, he being unable to bear any weight upon it, and it was in the position of equino-varus, the sole looking inward. The operation for the removal of the bone was performed on the 27th of March. The limb was placed in a plaster-of-Paris splint and a drainage-tube inserted. Complaining of pain at the end of the third day, the limb was slung. At the end of three weeks the patient was able to walk on his crutches, and for a week before the time of the presentation of his case the patient was able to get about with a cane. After the wound was healed there was a tendency to eversion of the foot. This was counteracted by rubber bands suitably applied to loops of adhesive plaster.

RUPTURE OF AN OLD CICATRIX OF THE COLON—SUDDEN DEATH.

Dr. Heinemann presented a small piece of the descending colon of a patient who died from shock, within eight hours, from the rupture of an old cicatrix. The patient, a spinster, aged 40 years, was taken ill on the evening of May 14th with an ordinary attack of diarrhœa. The discharges continued from Friday until the Tuesday evening following, when they ceased. On Saturday evening she became restless, and on Sunday the 23d there was a temperature of 102° F., and a pulse of 100. On Sunday evening the temperature fell to 100° F. On Sunday night she became a little more restless, but no other symptoms presented themselves. On the morning of the 24th Dr. H. saw the patient. The pulse was then 140, and she was somewhat delirious. At noon the countenance had changed completely; the features were pinched, the pulse was 160, and the respiration 53. At 4 P.M. the patient was somewhat more delirious, but still rational, and within one hour afterward she lost consciousness. She continued to sink, and died at half-past eight.

On Monday morning the symptoms looked like those belonging to masked typhoid, in which the rupture of an intestinal ulceration had occurred.

At the autopsy, Peyer's patches were found to be slightly swollen, the solitary follicles a little enlarged, but there was no enlargement of the mesenteric glands.

In the descending colon there were cicatrices of old ulcerations. In many places the mucous and muscular coats were destroyed, leaving only the peritoneal. In the middle third of the descending colon there was a patch the size of a three-cent silver piece, and another the size of a ten-cent silver piece, both of which had ruptured into the peritoneal cavity. The peritoneal cavity itself was empty.

The interest in the case centered in the fact that the patient died from a rupture of an old cicatrix, and that the accident was entirely unconnected with the last illness. The patient had during her lifetime suffered many times from attacks of diarrhœa; in fact, she had, according to her own statement, learned to look upon her bowels as her weak part. Dr. A. Clark, who had seen the case in consultation, and who had diagnosticated the condition, informed Dr. H. that he (Dr. C.) had seen a similar case last November, in which also the symptoms of collapse came on quite suddenly. In that instance, also, a diagnosis of rupture of intestine was made before death.

FIBRO-CYSTIC TUMOR OF VELUM PENDULUM PALATI.

Dr. Alfred C. Post presented a tumor removed from the soft palate, with the following history:

Margaret Cadwell, æt. 45; admitted into Presbyterian Hospital May 20, 1880, with a tumor occupying the right half of the velum palati. She had only noticed it about a month before her admission. It was not painful, and it did not give rise to any serious inconvenience. She attributed it to the irritation arising from false teeth. Before the operation I did not come to any definite conclusion as to the benign or malignant character of the morbid growth. I operated on the 22d of May, being prepared to make a free use of the Pacquelin cautery, if I had found the tumor firmly adherent to the velum in which it was imbedded. The patient being etherized, I pried the mouth widely open, and made a free incision through the buccal mucous membrane covering the inferior surface of the tumor. I ascertained at once that the tumor was loosely attached, and I succeeded, without difficulty, with the aid of a blunt tissue-separator, in enucleating it. The tumor was of a firm texture, apparently composed of fibrous tissue, with a small cyst of the size of a pea at one extremity. The length of the tumor was about four centimetres, and its breadth about three centimetres. I believe that tumors originating in the velum are of rare occurrence.

Dr. Post also exhibited a specimen of

ENORMOUS ENLARGEMENT OF THE UPPER END OF THE TIBIA,

with the following history:

Frederick Lenckel, æt. 25. Admitted into the Presbyterian Hospital Nov. 13, 1879. He had had disease of the upper end of the tibia for eight or nine years. On the 15th of November I removed a large amount of soft bony tissue infiltrated with pus, and soon after that date reported the case to the Society.

Since that time, the large cavity which was left in the bone has diminished in size, being partly filled with healthy granulations. But the patient has, for many months, been confined to his bed, his knee is flexed at an angle of about 140°, and his general health is delicate. He has a protracted cough, with a certain amount of dulness on percussion beneath the clavicle, and the expiratory murmur is prolonged. Under these circumstances I called a consultation of the surgeons of the hospital, and it was decided that the limb should be amputated. I performed the operation May 25th. I amputated at the knee-joint, making an oval incision, descending much lower at the posterior part of the limb than at the anterior. I was induced to operate in this manner by the fact that there was no healthy integument in front, extending much below the upper extremity of the tibia. Having dissected up the integument, I opened the joint, divided the crucial and lateral ligaments, and severed the leg from the thigh. There was some difficulty in accomplishing this part of the operation, owing to the very limited mobility of the knee, and to abnormal osseous deposits in the fibrous tissues. An unusual number of vessels required to be tied. The wound was then thoroughly washed with a carbolic lotion, 1 to 20. A long drainage-tube was then inserted across the limb, behind the condyles of the femur, having several large eyes within the limits of the wound, and the edges of the integument were accurately adjusted by numerous fine sutures. Three layers of carbolized gauze were then applied over the stump, perforated to allow the transit of the two ends of the drainage-tube, and a gauze roller was applied over the whole, allowing both ends of the drainage-tube to project two or three inches beyond the dressings. Carbolic lotion, 1 to 40, was then injected with a syringe through the tube, until it came out clear. This injection was directed to be repeated three times a day. The dressing of the stump was in accordance with the admirable method suggested by Prof. T. M. Markoe, and described by him as "through drainage."

EPITHELIOMA OF CHEEK—EXTIRPATION—VERY EXTENSIVE PLASTIC OPERATION.

Dr. Post also presented a specimen of epithelioma of the cheek, with drawings and diagrams, and with the following history:

Michael Kerns, æt. 61. Admitted into the Presbyterian Hospital May 13, 1880. He had an extensive epithelioma of the left cheek, extending from the ala nasi to the border of the masseter muscle, and from the lower lid down to a horizontal line midway between the nostril and the angle of the mouth. The patient first noticed a tumor on the cheek three years ago. The surface has been ulcerated during the last nine months. I removed the diseased mass on the 15th of May. The patient having had a hypodermic injection of morphia, and being etherized, I removed a square flap of integument about six centimetres in diameter, including the disease, and extended the vertical incisions down to the base of the jaw, thus forming a large flap to cover the denuded parts. I then dissected up the flap from the subjacent parts, and curved the incisions below and behind the base of the jaw, toward the lobe of the ear, so as to take off the tension from the flap, and to allow it to be drawn up to the level of the lower lid. In the course of the operation several arterial branches of considerable size were divided, and were secured with ligatures. After securing the vessels and thoroughly washing the wound with a carbolic lotion, 1 to 40, I introduced a drainage-tube from the upper to the lower part of the wound, and then brought the edges of the wound together with fine sutures. The edges of the wound, including the borders of the peduncle, were brought together at every point, except where they were separated by the drainage-tube. Before I applied the sutures I jerked off the ligatures from the arteries which had been tied, and apparently without any immediate injurious result. But I would not recommend this practice to be followed, for secondary hemorrhage occurred after the lapse of a few hours, and it became necessary to remove a large number of the sutures and to reapply ligatures to three of the wounded arteries. The lips of the wound were again secured with sutures, but not with as much ease as at first. The drainage-tube was removed at the end of three days. Some separation took place at the junction of the flap with lower lid, and at the lower part of the peduncle. But the greater part of the wound united by the first intention, and there is reason to believe that the face will be very little disfigured by the operation. Some inconvenience will be likely to occur from the growth of hair from the flap in the vicinity of the eyelid, but the occasional plucking of the hairs, one by one, will remedy this evil.

In conclusion, Dr. Post stated that Dr. Shrady had, a year or more before, performed a similar operation upon the cheek of a man with epithelioma. In Dr. Shrady's case, however, the growth was upon the prominence of the malar bone.

Dr. G. F. Shrady remarked that in his case the entire thickness of the cheek was excised, with the morbid growth, by means of a quadrilateral incision. This deficiency, which measured two and a quarter inches in one direction and one and a half inches in another (vide Medical Record, vol. xv., p. 82), was supplied by continuing the vertical incision directly downward to a sufficient depth, and then curving the peduncle rather abruptly backward until it terminated on the posterior aspect of the neck, and behind the mastoid process. The flap was brought up with the greatest ease; there was no tension at any point, and there was union by first intention throughout the entire extent of the wound, and no deformity.

Dr. Tansky presented a specimen of pelvic cellulitis and peritonitis, the result of over-distention of the rectum in a puerperal woman.

Dr. Hailes, of Albany, by invitation of the Society, exhibited and explained his microtome. By this apparatus it was shown to be possible to make the most perfect microscopic sections of any appreciable thinness with the greatest ease and rapidity. (See p. 109, Art. "An Improved Microtome.")

Dr Peabody remarked that the sections which he had seen were very perfect, being of extreme thinness, and of exact conformity throughout.

Commendatory remarks of the method and its results were also made by Drs. Satterthwaite and Carpenter, when, on motion of Dr. Briddon, a vote of thanks was tendered to Dr. Hailes for the presentation of his beautiful and useful apparatus.

ANEURISM OF ARCH OF AORTA.

Dr. Delavan exhibited two specimens of aneurism of the aorta, with the following histories:

F. B., age 32; English; married; coachman. Patient presented himself for treatment at the clinic for diseases of the throat, at the Demilt Dispensary, July 20, 1879, and gave the following history:

Family history good. Habits temperate. Denied venereal. Had never suffered from rheumatism. Had always enjoyed good health till five years ago, when he had an illness which lasted for six weeks, in the course of which he suffered with precordial pain, shortness of breath, palpitation of the heart, and inability to lie down. From these symptoms he never entirely recovered. During the past winter he suffered from short, hacking cough and night-sweats, but no expectoration, and progressively deteriorated as to his general condition. One week ago he was suddenly seized with incomplete aphonia, accompanied occasionally by a sensation of choking. At the same time he began to complain of precordial pain, cough, dyspnœa, great weakness, and anorexia. When first examined at the dispensary he complained of the above general symptoms; he appeared fairly nourished. His expression was anxious; his voice hoarse and rough at times, but generally reduced to a whisper. The laryngoscope revealed a condition of hyperæmia throughout the larynx and vocal cords. There was complete paralysis of the left vocal cord, while the movements of the right cord appeared to be limited. Examination of the chest revealed dulness, with increased vocal fremitus at the apices of both lungs, together with prolonged harsh respiration and friction râles. Pain and tenderness in dorsal region. Heart impulse strong and full. Frémissement cataire very strongly marked. Loud bruit over sternum and transmitted all over precordium and upper part of the right side of chest. Diagnosis: stenosis and insufficiency of the aortic valves of the heart, large aneurismal dilation of ascending and transverse sections of arch of the aorta. Pressure upon left recurrent laryngeal nerve.

As the patient lived out of town, it became necessary for me to place him in the hands of a friend, to whom I am indebted for the subsequent history of the case.

During a period of five weeks his condition became rapidly worse, the most distressing symptom being dyspnœa, which frequently became paroxysmal, especially at night. He complained of pain and a tingling sensation extending down the right arm and hand. The left radial pulse was much stronger than the right, and the veins in the right arm much distended; there was also considerable dysphagia, almost complete insomnia, respiration loud and crowing, cough very troublesome, with expectoration of considerable amount of bloody sputa. Action of diaphragm spasmodic; was obliged to bend forward to breathe, veins all distended, marked bulging of upper part of sternum.

Sept. 12th.—Patient was suddenly seized with a severe attack of dyspnœa; pulse feeble and irregular; marked cyanosis. He rallied and became comparatively comfortable, but six hours afterward the dyspnœa returned and the patient died.

Autopsy, 18 hours after death.—Body well nourished; rigor mortis well marked; œdema of both legs; abdomen normal; diaphragm: right side, fourth rib, left side, fifth rib; thorax: there are a few adhesions at each apex, elsewhere none at all; no fluid in either side; the aorta is obviously much dilated at the summit of the arch, the thoracic viscera being removed entire, the following conditions are found: The heart is somewhat enlarged, chiefly at the expense of the left ventricle; the aorta is atheromatous throughout, there being but few small patches of sound tissue; it is nowhere calcareous, but is ulcerated in places; the aortic valves are stiffened, and the edges thickened; the other valves are normal; about two inches above the aortic valve the aorta becomes suddenly dilated, forming a sac, which is nearly spherical in shape, with a diameter of about 3½ inches. This sac presses upon the trachea so as to materially lessen its calibre. It involves the whole of the arch of the aorta, and about 3 inches of the descending aorta is dilated, forming a fusiform sac, whose diameter is about 1½ inch. The posterior wall of this latter sac is firmly adherent to the bodies of the sixth and seventh dorsal vertebræ. It has eroded both their bodies to the depth of about $\frac{1}{12}$ of an inch and over an area of 1 by 1½ inch.

Lungs congested and œdematous; old fibrous induration at both apices. Brain and membranes, spleen, stomach, and intestines, normal. Liver fatty. Kidneys intensely congested.

Microscopical examination of kidneys.—They are found to contain many hyaline casts. No miliary aneurisms found in vesicles of the brain.

F. F., age 35; single; United States; coachman; family history good; hard drinker; denied syphilis.

For fourteen years patient suffered from caries of the spine, which increased in severity during the past five years. Two years after commencement of the disease patient began to suffer from cough, night-sweats, anorexia, pain in the chest, and occasionally œdema of the feet.

One month before admission to the New York Hospital cough became more troublesome; there was also marked dyspnœa and occasional slight hæmoptysis. On admission to the hospital the patient was weak and somewhat emaciated. Examination revealed marked cyphosis, the most prominent point being the ninth dorsal vertebra. There was also rude respiration, and dulness at the apices of both lungs. The voice was husky, and at times reduced to a whisper. Deep inspiration was accompanied by a peculiar crowing noise. The radial arteries were atheromatous.

For four weeks following admission to the hospital the prominent symptoms were severe paroxysmal attacks of coughing, with, at times, expectoration of blood, dyspnœa, stridulous breathing, and pain in the dorsal region. A plaster-of-Paris jacket was at this time applied, with the result of affording some relief; six weeks following admission the attacks of dyspnœa began to grow alarming, cough very distressing, and voice husky and indistinct. Eight weeks after admission patient was suddenly seized with a violent spasm of the glottis, became deeply cyanosed, and suddenly died.

Autopsy.—Body well nourished. No œdema; marked cyphosis both in dorsal and in lower cervical regions, as well as double lateral curvature. Head, brain, and membranes normal; abdomen normal; diaphragm: right side at level of third rib; left side at level of fifth rib. Thorax: old adhesions everywhere on left side, none on right side. Heart: valves normal, muscular tissue good. A few patches of atheroma in aorta. Lungs: right lung normal, except some œdema, some reddish mucus in bronchi; left lung intensely congested and œdematous. Two old patches of fibrous thickening in upper lobe; near apex a small cavity about the size of a chestnut, containing cheesy pus; bronchi contain reddish mucus. Spleen normal. Kidneys intensely congested, hard and firm; markings good. Stomach: mucous membrane slightly thickened. Liver and intestines normal. Other organs: tongue, larynx, trachea, œsophagus, arch of aorta, descending aorta, removed *en masse.* Just before the origin of the left subclavian artery is reached, an opening is seen in the aorta which is irregularly circular in shape, with a diameter of about three-fourths of an inch. A firm red clot projects from this into the aorta. On removing this clot a sac is disclosed, which is about two inches in diameter and nearly spherical in shape. On opening larynx and trachea, this is found to communicate with the trachea just above the bifurcation by two small, irregularly shaped openings, through which a probe passes freely. Just above these are two small ulcerations in the mucous membrane of the trachea which do not reach the aneurism. There is some pinkish mucus in trachea, but no blood. The rings of trachea in contact with aneurism are calcareous.

Microscopic examination: Kidneys show numerous fatty tubes.

CARCINOMA OF THE STOMACH, LIVER, AND MEDIASTINAL GLANDS—ABSCESS BURSTING INTO ŒSOPHAGUS AND LUNG, CAUSING GANGRENE—DEATH FROM PULMONARY HEMORRHAGE.

Dr. Satterthwaite presented the following case as a curious instance of the way in which death may be caused in carcinoma of internal organs.

J. K——, æt. 43; German; laborer; entered the Presbyterian Hospital April 6, 1880. His previous history, so far as gathered, was unimportant, and had no bearing upon the disease which ushered in the fatal symptoms. The first marked derangement of his health was observed in September, 1879, when he had repeated attacks of vomiting, first expelling the contents of his stomach, and then clear mucus. These expulsive efforts gave him no pain. During the latter months of his life there was cough and muco-purulent expectorations, or something which was so regarded. Particular attention was not directed to this point, as the case exhibited many of the prominent symptoms of phthisis. During the early months of the year he had afternoon fever, followed by sweating, but the vomiting had stopped. His appetite was now good, although digestion was poor. Starchy and fatty foods were most acceptable, but albuminoids gave distress. Examination of the urine yielded nothing abnormal. In April last, just prior to death, he had hæmoptysis, as was supposed, but he was never confined in bed. One day, while in the surgical ward, he was overtaken by a sudden hemorrhage. He then fell upon the floor, the blood filling his mouth, throat, and nose. Cyanosis was complete. Though efforts were immediately made to rally him, they were unavailing.

At the post-mortem examination, the contents of the thoracic cavity, together with the tongue, pharynx, and larynx, were removed *en masse.* On opening the œsophagus from behind, it was seen to be ulcerated at two points, one on a level with the auricular ventricular openings, and therefore in the horizontal plane of the third costal cartilages, the other a half-inch above. Both openings were about three-quarters of an inch in diameter, and had ragged edges. They were manifestly caused by the breaking down of degenerate glands. Though in both cases the lumen of the œsophagus had been destroyed, in the case of the upper ulcer, the gland, or its remains, pressing into the opening, occluded the opening, so that no food could escape. The lower ulcer, however, had established a communication with the lung by a fistulous passage which passed forward, downward, and to the right. This track, which barely admitted an ordinary lead-pencil, passed immediately behind one of the two pulmonary veins which carried the blood into the auricle from the right lung. It also lay close to the main division of the bronchus, which leads to the right lower lobe. In this situation it had excavated for itself a large cavity the size of one's fist. At first glance it was thought that the case was simply one of ordinary fibrous phthisis in connection with carcinoma. On closer observation, however, it was seen that the cavity was gangrenous, and that there were in reality none of the fibrous septa that belong to fibrous phthisis. Nor were there any miliary tubercles or caseous collections or consolidations of any kind in this lung. The cavity was similar to those found in the lung when foreign substances, such as food or solid matters, have accidentally made their way into its texture. Owing to progressive gangrene, there had been ulcerations into a small pulmonary vessel, whence the hemorrhage, which mainly, if not wholly, passed into the œsophagus, and from thence downward into the stomach, and upward into the mouth and nose.

Surrounding the trachea and bronchi were numerous other enlarged and softened lymphatic glands. On removing the stomach it was plain that this organ was the seat of the primary disease. At the pyloric extremity, evenly involving the whole circumference, was a cirrhous infiltration, which gave the walls a thickness ranging from one-half to three-quarters of an inch. The orifice was so narrowed as to admit only the little finger, and that with difficulty. The stomach also was dilated, and its lower margin reached to the level of the umbilicus. The liver was filled with cancerous nodules, ranging in size from a pea to a large marble. The spleen was soft, but otherwise normal. The heart was small, flabby, and its valves atheromatous. The left lung was normal.

The most reasonable explanation of the case was that the disease first appeared in the stomach, as indeed the clinical history indicates; that later the liver and mediastinal glands were infected. A large gland becoming enlarged and softened, discharged both into the œsophagus and lung. First these readily gained access to the lung, causing gangrene, which in turn, encroaching upon the calibre of the pulmonary vessels, gave rise to the hæmoptysis, and indeed, secondarily, to hæmatemesis. Cases similar in many respects are on record, and von Ziemssen and Zucker record one in their chapter on diseases of the œsophagus, in Ziemssen's Cyclopædia.

The daily exacerbations of fever accord with this view, and the sputa might, in ordinary clinical language, be described as "muco-purulent."

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AMERICAN LARYNGOLOGICAL ASSOCIATION.

Second Annual Convention, held May 31, 1880.

First Day—Morning Session.

The American Laryngological Association convened at Delmonico's, Parlor No. 10, in New York City, May 31, 1880, and was called to order at 11 A.M. by the Secretary, **Dr. George M. Lefferts**, of New York.

In the absence of the President and Vice-President, on motion of Dr. Knight, Dr. J. Solis Cohen, of Philadelphia, was elected Chairman.

The Secretary, **George M. Lefferts**, of New York, then read his Address of Welcome. He spoke in cheering terms of the prospects of the Association and its cause for self-congratulation.

The address of the President, **Dr. Lewis Elsberg**, of New York, was read by the Chair.

The first paper in order was that of **Dr. Ephraim Cutter**, of Boston, entitled

THROAT SYPHILIS AND TUBERCLE, ACCORDING TO SALISBURY:

The paper was intended to show, first, how throat syphilis was distinguished from tubercle according to Salisbury; second, what syphilis was on the Salisbury plan; third, what tuberculosis was on the Salisbury plan; fourth, differential diagnosis; fifth, mode of conducting the physical exploration.

Dr. Carl Seiler, of Philadelphia, inquired as to the size of the spores, both in syphilis and tuberculosis, as well as to size of the filaments developed from these spores.

Dr. Cutter replied that he had not made accurate measurements of these, for he did not consider it necessary. All that was necessary for a differential diagnosis was to be familiar with the appearance of these in the two instances.

Dr. E. L. Shurley, of Detroit, next read a paper upon

THE TREATMENT OF PHARYNGITIS SICCA.

Of about two hundred patients, of all ages, under treatment for various diseases, both hospital and private, whose pharynges he had examined, nearly one-half presented the objective symptoms of pharyngeal or naso-pharyngeal catarrh, or follicular pharyngitis. Of these there were only three with well-marked appearances of pharyngitis sicca. Most of these cases were chronic, and occurred in persons of middle or advanced life. Therefore, Dr. Shurley thought that this morbid condition was neither always an ultimate stage of chronic pharyngeal catarrh, or follicular pharyngitis, nor an accompaniment of old age, nor a condition depending upon so-called scrofula, but a local change which depended not only upon previous disease of the mucous membrane, but upon some peculiar constitutional defect. He thought, therefore, that before any plan of local treatment was instituted, a very careful investigation of the vital status of the patient should be made, particularly of the primæ viæ, and a proper systemic treatment at once adopted. As aids to digestion, he had found cornin and xanthoxylin, alone or combined with an acid, to act the best. The tincture of calumbo and Fowler's solution were also highly beneficial in some cases; while in the subjects of malarial toxæmia the sulphate or phosphate of quinine was indicated. In those cases characterized by a constant deficiency or perversion of the hepatic and intestinal secretions he had found, in addition to general tonic treatment, the use of several large doses of ammonia mur. or soda phosphate to yield excellent results. Cod-liver oil and iodine were, of course, indicated in some instances, but great care was necessary in their use, lest by an unfavorable effect upon the stomach the greatest desire was defeated. Hygienic treatment and avoidance of all impure air was, of course, to be enjoined. Though the effects of local treatment were too often transient, it was not without benefit in almost all cases. Applications of iodine, nitrate of silver, sulphate of copper, petroleum oil, and the galvanic current had proved most beneficial in his hands.

Dr. Bosworth remarked that he had found this condition to frequently affect cigarette makers, and thought occupation had much to do with its causation. He had not found the condition to depend upon disturbances of the general health or stomach. He had never used galvanism in the treatment of his cases. He had been well satisfied with the use of drugs, especially with powdered blood-root.

Dr. Cutter considered the disease due to improper nourishment.

First Day—Afternoon Session.

The Association was called to order by the Chairman at 3.30 P. M.

SOME PRACTICAL SUGGESTIONS IN CONNECTION WITH THE USE OF THE LARYNGOSCOPE IN CHILDREN.

Dr. George M. Lefferts, of New York, read a paper upon this subject. He called attention to the special importance of the diseases of the larynx in children. The difficulties to be encountered were both moral and physical. With children, laryngoscopy was an art by itself, and required a special training of both manner and method. The most difficult cases to manage were those which had been subjected to unscientific and unskilful treatment. In cases where it was found necessary to proceed *vi et armis*, the best way was to envelop the child's body and arms with a strong towel, pinning it closely about the patient, and then place it upon an assistant's lap, the physician securing the child's legs between his knees. In this way an examination could readily be made.

The first essentials of success were, in children, a small laryngeal mirror and a perfect illumination. The first introduction of the glass, at a given sitting, was always the most successful. Acutely inflamed laryngeal parts and largely hypertrophied tonsils would often completely prevent examination. Screaming and crying, contrary to what may be supposed, was not a disadvantage. To see beyond or over the epiglottis it was necessary for the observer to stand or at least throw the child's head far backward and to carry his mirror well upward into the pharynx, and finally, if possible, to induce the child to phonate the vowel-sound "e" as loudly and quickly as possible. In the majority of cases of acute laryngeal disease in small children, a complete and satisfactory result was unfortunately seldom attained.

Dr. Cohen believed that in the majority of cases in which he had seen the larynx in very young children, it had been the result of a happy accident rather than skill. He generally allowed the nurse to hold the child.

Dr. Cutter cited a case in which he had diagnosticated an intra-laryngeal growth in a child two and a half years old.

The paper was further discussed by Drs. Mynter, Lincoln, Smith, Rumbold, Knight, Bosworth, and Lefferts.

The next paper was by **Dr. Beverley Robinson**, of New York, entitled,

SUGGESTIONS AS TO THE THERAPEUTICAL VALUE OF REST IN THE TREATMENT OF LARYNGEAL DISEASES.

Rest had been applied to laryngeal diseases in a somewhat imperfect and casual way. As specialists we were too apt to consider the vocal organ as something apart from the other organs of economy, and to overlook the first elements of therapeutical science in our efforts to relieve our patient, when in a painful state, from lesion of its tissues. In acute laryngitis the voice should be kept absolutely still, the respiration should be as quiet as perfect repose of body and mind would permit, and there should be no injudicious attempt made by the patient to use the voice, even for the smallest home concerns. In chronic laryngitis a problem of a different sort was offered. The main thing to be kept constantly in view was to change the static engorgement of the tissues into a more active circulatory condition, and then to watch and guide this to a normal state. The last traces of chronic congestion and thickening were slow to disappear, but here again physiological rest was almost the only reliable means of cure.

In nervous affections of the larynx rest by itself might be curative. Again, ulcerative phthisical laryngitis has been cured more than once by wearing a tracheal canula during several months, thus giving rest to the laryngeal tissues. In morbid growths of the larynx there was reason to believe that the rest afforded by tracheotomy would be serviceable. In cases of traumatic injury to the larynx, with or without subsequent œdematous infiltration, it was marvelous to note the good effects of tracheotomy, and consequently of rest to the larynx, and of freedom from irritating contact with air.

Physiological rest was often attainable by the employment of medicines topically applied within the larynx.

Whenever and wherever we were called upon to treat laryngeal troubles, we should bear in mind that the production of physiological rest was the curative principle upon which most of the good effects attributable to other means, medicinal, surgical, hygienic, in the main depended, and we should then be willing to give to it its genuine value.

Drs. Smith, Shurley, Bosworth, Knight, and Roe, concurred in the main with the views expressed by Dr. Robinson.

Dr. Seiler thought there should be a distinction made between those cases in which the vocal chords alone were affected, and those in which the muscles were affected. There was another class of cases in which real pain in phonation existed, and in these cases absolute rest was necessary.

Dr. Cohen agreed with Dr. Robinson in all except the performance of tracheotomy, with which he had very little experience.

Dr. Cutter inquired of Dr. Robinson if he performed the operation of tracheotomy without an anæsthetic.

Dr. Robinson replied that he did when possible.

The paper was still further discussed by Drs. Knight, Allen, Roe, Cushing, and Robinson.

Second Day—Morning Session.

The Association was called to order at 11 A. M., Dr. Cohen in the chair. The Secretary read the minutes of the business meeting of the last annual session.

By vote of the Association, Drs. W. Gleitsman, of Asheville, N. C., S. M. Langmaid, of Boston, E. W. Cushing, of Boston, Harrison Allen, of Philadelphia, C. E. Bean, of Louisville, C. E. Sajous, of Philadelphia, Wm. H. Daly, of Pittsburg, Pa., and William C. Jarvis, of New York, were elected active fellows.

Dr. Manuel Garcia, of London, was elected to honorary fellowship, and Dr. Carlo Labus, of Milan, was elected to corresponding fellowship.

The Committee on Nomenclature, Drs. J. Solis Cohen, F. I. Knight, Beverley Robinson, and Ephraim Cutter, was reinforced by two additional members, Drs. J. H. Hartman and Andrew H. Smith, and requested to continue in office for another year, in order to complete their work.

As the members of the American Laryngological Association had received an invitation to attend the first International Laryngological Congress, to be held in Milan the first week in September, 1880, it was resolved that the President should appoint three members as delegates to represent the Association in that Congress, and the Secretary be instructed to furnish said delegates with proper credentials.

Drs. Elsberg, Hartman, and Seiler were appointed delegates in accordance with the above resolution.

Upon motion, the *Archives of Laryngology* was made the official organ of the Association.

Dr. Thomas F. Rumbold, of St. Louis, exhibited an improved instrument for the removal of intralaryngeal growths, after which the Association adjourned.

Second Day—Afternoon Session.

The Association was called to order at 3.30 P. M., and, at the request of the Chair, Dr. F. I. Knight presided, while **Dr. J. Solis Cohen**, of Philadelphia, proceeded to read his paper on

PRIMARY TUBERCULOSIS OF THE LARYNX, WITH SPECIMENS AND MICROSCOPIC SECTIONS.

A detailed clinical history of a very interesting case of this rare affection was given, together with the carefully recorded results of the post-mortem examination of the same.

Dr. Seiler remarked that about three weeks before the death of the patient he had seen him at the dispensary, and although there were slight indications of lung disease, it was the very great change in the larynx which caused him to give a bad prognosis.

Dr. Cushing remarked that he had seen two cases of tuberculosis in the larynx, where he and other more competent observers could find no evidence of tuberculosis in the lungs.

Dr. Seiler thought that phthisical lesions could be detected in the larynx before there was any evidence of their existence in the lungs.

Dr. Roe instanced two cases which came under his notice last fall.

A somewhat lengthy and interesting discussion followed, in which Drs. Asch, Roe, Seiler, Robinson, Knight, and Cohen participated.

The next paper was by Dr. Frank H. Bosworth, of New York, upon

NASAL STENOSIS.

It was generally recognized that the successful treatment of nasal catarrh lay in the total abolition of that thickened or hypertrophied membrane which formed so prominent a feature of the disease; and by nasal catarrh in this connection he desired to limit himself to the ordinary chronic nasal catarrh, in which the prominent and characteristic feature was a hypertrophy of the mucous membrane lining the nasal cavity. In the vault of the pharynx the hypertrophy involved mainly the glandular structure. The characteristic appearances of all the parts involved were described in detail. The local application of nitric acid was a very good means of destroying the diseased tissue. The use of nitrate of silver was somewhat limited. The best method of applying it was by means of a flat probe, on one side of which had been fused a small bit of caustic. The doctor thought that acetic acid offered marked advantages, in its use, over most chemical agents. He had used this remedy in a large number of cases, and had rarely been disappointed in obtaining excellent results. Two or three applications were all that was necessary. It should always be borne in mind that the result of irritating local applications might be excessive inflammation, with the danger of its extending to the integument without. The galvano-cautery was thought to be least liable to cause excessive inflammation.

Dr. Rumbold remarked that he had for years used the scissors to remove the diseased tissue.

Dr. Shurley had not been satisfied with the use of chemical agents.

Dr. Allen alluded to the occurrence of erysipelas in hospital cases, but he had never known of its occurrence in private practice.

Dr. Lefferts protested against the prevalent use of the terms "stenosis" and "stricture" as applied to the nasal passage. Stricture was the narrowing of the calibre of a tube by contraction of its fibres, while stenosis was the narrowing of the nasal passage by relaxation of the mucous membrane.

Dr. Daly was in the habit of removing the hypertrophied mucous membrane with a galvano-cautery electrode at cherry-red heat.

Dr. Lincoln spoke in praise of the local application of chromic acid.

Third Day—Morning Session.

The Association was called to order at 10.30 a.m. by the Chairman.

Dr. Carl Seiler, of Philadelphia, proceeded at once to the exhibition of some improved instruments for the removal of intra-laryngeal growths, after which he read his paper, which consisted of the history of a case of

PAPILLARY GROWTH OF THE LARYNX.

The paper was discussed by Drs. Glasgow, Langmaid, Cohen, and Seiler.

The next paper was by Dr. J. O. Roe, of Rochester, N. Y., entitled

FRACTURE OF THE LARYNX.

An interesting history of a case with the post-mortem of the same was given.

There being no discussion upon this paper, the Secretary proceeded to read the paper of Dr. E. Fletcher Ingals, of Chicago,

ON THE SO-CALLED SWALLOWING OF THE TONGUE.

This occurred most commonly in children.

Dr. Cohen considered the expression "swallowing of the tongue" an improper one. He cited a case which had come under his notice, where the patient complained of his tongue flopping up against the roof of his mouth, and which was relieved by a drink of brandy.

The prescribed programme for the morning session having been completed before the hour of adjournment, upon motion, Dr. Langmaid, of Boston, was requested to read his paper which proved to be an exceedingly interesting, able, and important dissertation on

THE TREATMENT OF CERTAIN FORMS OF VOCAL DISABILITY BY THE APPLICATION OF THE PRINCIPLES OF VOICE CULTURE.

Attention was especially called to two points: one was that artists depend quite as much upon flexion of tone as upon any other means for the production of effect; the other was that the force of blast in voice would surely give out.

Dr. Seiler expressed his great gratification with the paper, inasmuch as he had done a great deal of work in the same direction since 1858. He had demonstrated anatomically that there was such a thing as marginal vibration of the cords. He could not coincide with Dr. Langmaid in saying that the so-called false register was a false voice. The chest voice had a full sound; the falsetto had a weak sound. In falsetto the margins of the vocal cords were relaxed, and, with proper cultivation, a sound could be produced by these marginal vibrations which would favorably compare with the notes of the chest, and by the laity could not be distinguished from them.

Third Day—Afternoon Session.

The Association was called to order at 2.30 p.m. by the Chairman, Dr. Cohen.

NASAL POLYPUS.

Dr. William H. Daly, of Pittsburg, Pa., read an interesting paper upon this subject, which was discussed by Drs. Allen and Knight.

Dr. William C. Jarvis, of New York, read a paper on

THE SURGICAL TREATMENT OF HYPERTROPHIC NASAL CATARRH.

He began by stating that chronic nasal catarrh had for its invariable concomitant an hypertrophy of the tissues over the turbinated bones. That hypertrophy was found to involve the posterior much more frequently than the anterior extremities of the turbinated tissue. He adduced several histological and pathological specimens to illustrate this tendency. Stenosis was divided into anterior and posterior varieties; the latter being of greater importance, its treatment was detailed without reference to the former. A new wire snare écraseur, devised for the removal of the hypertrophied tissue, was exhibited, as well as several other new instruments used in the treatment of these cases.

Dr. Andrew H. Smith brought a patient before the Association who presented a well-marked substernal tumor which had been diagnosticated as such by Dr. Clark five years previous. Its nature was not known.

Dr. Beverley Robinson presented the history of a case in which great dyspnœa seemed to be attributable to hypertrophy of the tonsils.

Dr. S. H. Chatman, of the Yale School of Medicine, exhibited a portion of the body of the third cervical vertebra which he had removed from the throat of a male patient in January. The cause of the necrosis was unknown.

At the private business session which followed, the following officers were elected for the ensuing year: *President*, Dr. J. Solis Cohen, Philadelphia; *Vice-President*, Dr. W. C. Glasgow, St. Louis; *Secretary* and *Treasurer*, Dr. Geo. M. Lefferts, New York.

The Association adjourned to meet in Philadelphia in 1881, on the Monday following the meeting of the American Medical Association.

Correspondence.

CONTINUOUS ELASTIC DILATATION OF UTERINE CAVITY.

To the Editor of The Medical Record.

Sir:—I have just been reading your report of the meeting of the American Medical Association, and there I find a brief note of a "New Uterine Dilator," by Dr. Marcy, of Massachusetts. As priority of publication in such matters is sometimes of importance, I think it well to point out that many months ago I published in the *Lancet*, and showed to the Obstetrical Society of London, an instrument for dilating the uterus by continuous elastic pressure. The apparatus is fully described in my book on "Diseases of Women," recently published by Messrs. Wood & Co., of your city, and it will be found to supersede entirely all kinds of tents for every purpose of uterine dilatation. I am, etc.,

Lawson Tait.

Birmingham, Eng., June 23, 1880.

PHYSICIANS AND DRUGGISTS.

To the Editor of The Medical Record.

Sir:—I do not agree with your correspondent in his strictures on incompetent druggists. It is, in the first place, impossible to go back, in large cities at least, to the old plan of compounding your own medicines, and, in fact, it would be a greater evil than that now complained of, unless the prescriber intends to depend on homœopathy. No one but a thoroughly trained apothecary can properly make up compound prescriptions.

The remedy, it strikes me, lies in this: let every physician pick out a *reliable* druggist in certain sections of the city, where his practice lies, and *insist* on his patients going there and nowhere else. He has a right to prescribe the apothecary as well as the medicine. There are plenty of reliable druggists. Then it would be better that physicians should be more careful about writing their prescriptions—the Latin, the abbreviations, and the chirography—and not *abbreviate* too much. Now I contend that * * * might have written his prescription more plainly, if not more correctly, as thus:

℞. Tinct. opii camph.	ʒ iv.
Potassii nitratis	gr. cxl.
Syr. tolutan.	℥ ij.
Aquæ cinnamo*mi*.	q.s. ad ℥ iv.

M.

There could then be no room for doubt as to the meaning of the directions.

It would be almost as reasonable to contend that people should be their own physicians, because there are so many quacks, and the law draws no distinct line of demarcation between the regular and the irregular. But, as a general rule, there is a way of distinguishing the one from the other. Generally speaking physicians pay too little attention to the character of their druggists and the purity of the drugs they use. By dealing with two or three only in a large city, or one in a small town, the physician can gradually ascertain the degree of his competency, his prudence in his intercourse with patients, and the reliability of his drugs. "Suum Cuique."

SANITARY MATTERS IN JAPAN.

To the Editor of The Medical Record.

Sir:—The National Health Board reports the reappearance of cholera in several sections of the empire within the last month. As the number of cases has been not more than three (3), even in those sections which suffered most last year, I am disposed to think that few, if any of them, are true cholera, as I have seen two cases of congestive malarial fever within the last week, which might be easily mistaken for cholera, by even better diagnosticians than nine-tenths of the Japanese doctors. The wonder is that, with the sharp lookout kept for the return of the disease, there have been no more reported.

Be this as it may, we have every reason to congratulate ourselves with this next to complete exemption from the scourge so far, as last year, by this time, several hundred cases had occurred in each of the localities of its subsequent greatest prevalence.

Preparations on a large scale have been made for its expected return, however, especially in the purchase of carbolic acid, the customs returns showing that over 1,000,000 pounds have already arrived from Europe and elsewhere. As it is, for the most part, in one-pound bottles, and of fairly good quality, it necessarily represents a no inconsiderable sum. It is to be hoped the speculators in the article will be disappointed in their expected gains, based on the repetition of the calamity of last year. The lesson of the last three years, though a severe one, has been productive of much good, in awakening the whole country to the necessity of adopting sanitary measures of all kinds, public and private. The great question of a pure drinking-water supply is receiving its share of attention. It will take many years, however, before any great changes can be brought about in the habits and customs of the mass of the people, so long entirely ignorant of many of the most primitive hygienic laws. We are safe in saying, however, that more progress has been made in sanitary science during these three years of epidemic cholera than could have been attained in a quarter of a century of the best directed efforts under less disastrous circumstances.

Every prefecture throughout the empire has now its sanitary bureau, under the direction of intelligent officers, as a part of its organization, whereas, three years ago, only one existed at the capital.

The question of cheap and quickly available disinfectants is one of vast importance to the country, as the time required to bring them from Europe, added to the great expense, has not only been a serious obstacle to their use in quantities sufficient to be effective, but is likely to be again in any sudden outbreak of the disease. As carbolic acid cannot be made here except in very small quantities, because of the few gas-works in operation, I have suggested to the government the use of sulphurous acid (sulphuric acid being manufactured here in considerable quantities), so highly recommended by Lebert "Ziemssen's Cyclopedia," in vol. i., page 452.

This suggestion was adopted by this prefecture during the epidemic of 1877, when carbolic acid ranged from $1.25 to $5.00 per pound. It was given a fair trial by its exclusive use in one of the worst sections of Yokohama, as to its hygienic condition, with apparently the best results, as it almost entirely escaped the disease raging elsewhere.

D. B. SIMMONS, M.D.,
Chief Surgeon to Ken Hospital.

YOKOHAMA, JAPAN.

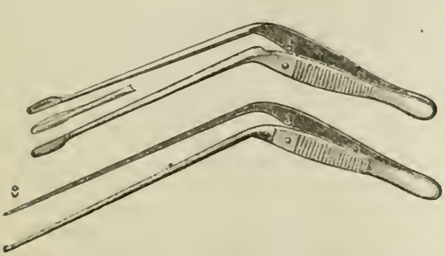
New Instruments.

SOME NEW AURAL INSTRUMENTS.

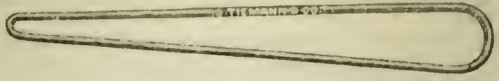
By SAMUEL SEXTON, M.D.,

AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

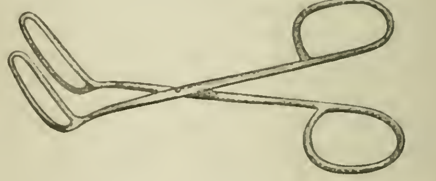
THE writer, requiring for his own use some aural instruments of much lighter make than usually to be found in the cutler's collection, the following were manufactured at his request. Their continued use for some months has satisfied him that their delicate construction has not been at the expense of their usefulness, a fact of no little importance when it is considered that in many operations on the ear (especially for the removal of foreign bodies from the meatus externus) one is prone to resort to more vigorous efforts than the case requires.



The cut shows two kinds of forceps about one-third smaller than the instruments themselves. These forceps have a very firm bite and close with much precision—points that are obtained from the accurate workmanship, and from the shortening of that part of the instrument held in the fingers when in use. One of them has broad and smooth ends, not liable to injure the meatus or membrana tympani, and is suitable for the removal of foreign bodies; the other has fine points, with sharp teeth set at a right angle, and is of service in removing smaller objects. Being more slender it can sometimes be inserted so as to grasp an object where other forceps would push it further into the meatus. These forceps have but little or no claim to originality in shape, but they are recommended especially for their light and delicate construction.

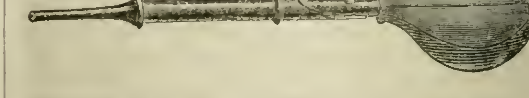


The oroscope here figured is, so far as it is known to me, new in design. It is especially adopted to aid in explorations of the mouth and throat; for the former it seems to be all that is desired, and for purposes of tongue depression it is usually quite effective in affording a good inspection of the throat, although, for the latter purpose, it is not intended to take the place of the more elaborate instruments in use when the case requires their employment. The buccal cavity can be thoroughly examined by the use of the oroscope; and daily experience teaches me that reflected neuralgias are so frequently a cause of aural disease that a careful examination of the teeth, etc., is necessary in all cases. Either end of the oroscope can be used in the mouth, thus providing a suitable tongue depressor for the examination of children, the smaller end being adapted to the smallest mouth. I have observed that children do not object so much to its use as they do to that of spoons or the formidable tongue depressors in ordinary use. The instrument is inexpensive, easily cleaned and polished; it is less than fifteen centimetres in length and at the larger extremity two centimetres wide. It is well adapted to a pocket-case.



This nose speculum is very light, and unlike many others is provided with handles through which the thumb and forefinger can be thrust, giving it more precision than when held loosely, and permitting of the distention of the nares to the required extent in a gradual manner, the speculum opening as the handles are separated. This natural motion of the fingers, acquired by every one in using scissors, seems to me a better one than the contrary movement generally required by other instruments.

Specula opening by a spring are painful if by chance they are allowed to expand suddenly, thus alarming children and the more sensitive adults. The instrument is made of steel, is very light, and can be packed away in a small space.



The aural powder insufflator consists of a vulcanite barrel which is composed of two parts, one of which is used to scoop up the powder, the other is provided with a small soft-rubber bulb for driving out the powder, and has a valve that prevents the powder being drawn back into the instrument after its expulsion. When these two portions are fitted together their appearance is as shown in the figure. I much prefer to puff powders into the external auditory meatus in this way to blowing them out of an instrument with the mouth. The instrument is about twelve centimetres in length. These instruments were made by Geo. Tiemann & Co., to whom much credit is due for their excellent quality.

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AN IMPROVED MICROTOME.

Two Hundred Sections a Minute, each $\frac{1}{1200}$ of an Inch in Thickness.

By WM. HAILES, M.D.,

PROFESSOR OF HISTOLOGY AND PATHOLOGICAL ANATOMY, ALBANY MEDICAL COLLEGE.

I wish to present to the notice of the profession an instrument designed especially for use in the working laboratories of our medical schools and colleges, where large numbers of sections are required for microscopical examination.

It occurred to me several years since that a microtome could be devised, combining, in a single instrument, many of the advantages existing in other instruments, and I published an article entitled "Sections and Section Cutting," in the *American Journal of Insanity*, April, 1879.

This instrument, greatly improved, together with examples of its work, I present for examination.

It may be employed as a simple instrument or as a freezing microtome, arranged either for ice and salt, ether spray, rhigoline, etc.

The employment of ice and salt (coarse) is preferred, because it costs but little and freezes the mass solidly and quickly, and, if desired, 500 or 1,000 sections can be obtained in a few moments.

Time of freezing is about seven minutes, except in very warm weather, when it requires a few moments longer.

The instrument does not work quite so satisfactorily in very warm weather, owing to the rapid melting of the surface of the preparation.

It is absolutely necessary that the mass should be frozen solid, or the sections cannot be cut smoothly.

An extra freezer may be employed, and while one specimen is being cut the other is being frozen, and by exchanging cylinders (they being interchangeable) no delay is necessary to its continuous operation.

The art of cutting is readily acquired, and when the preparation is frozen it is the work of a few moments to obtain several hundred sections. Two hundred or two hundred and fifty sections can be made each minute, and of a uniform thickness of $\frac{1}{1200}$ of an inch (or thinner). The delicacy, ease, and rapidity with which they can be cut must be seen in order to be appreciated It is not necessary to remove the sections from the knife every time, but twenty or thirty may be permitted to collect upon the blade. They lie curled or folded up upon the knife, and when placed in water, straighten themselves out perfectly in the course of a few hours. The knife I employ is an ordinary long knife, from an amputating case.

Perfectly fresh tissues may be cut without any previous preparation, using ordinary mucilage (acaciæ) to freeze in, but most specimens require special preparation.

If preserved in Müller's fluid alcohol, etc., they require to be washed thoroughly for several hours, and then, according to the suggestion of my friend, Dr. David J. Hamilton, F.R.C.S.,* etc., of the University of Edinburgh, Scotland, the specimen is placed in a strong syrup (sugar, two ounces; water, one ounce) for twenty-four hours, and is removed to ordinary mucilage acaciæ for forty-eight hours, and is then cut in the freezing microtome.

These sections may be kept indefinitely in a preservative fluid recommended by Dr. Hamilton: ℞. Glycerine, aqua destil. āā ℥ iv.; acid. carbolic., gtts. iij. Boil and filter. The addition of alcohol, ℥ ij., is advisable.

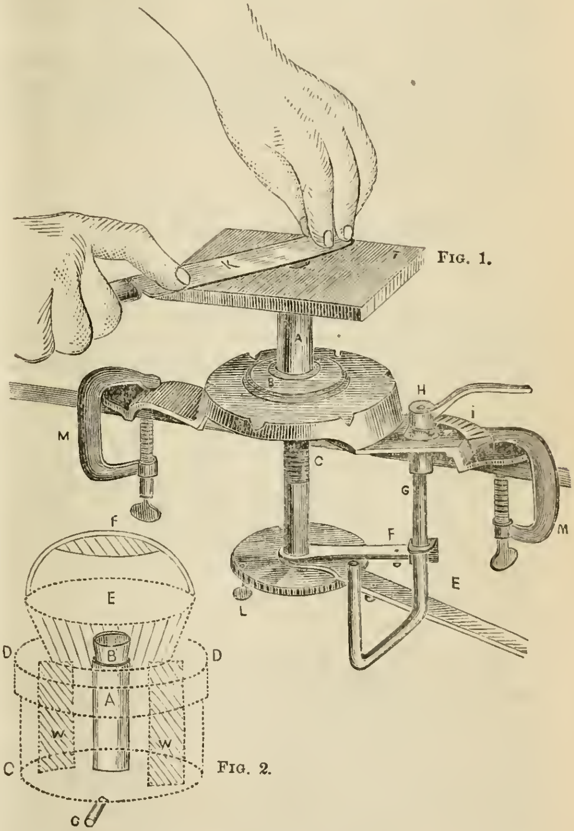

FIG. 1.

FIG. 2.

Fig. 1.—Poly-microtome (without freezing apparatus). A, small well fitting on pyramidal bed-plate; B, pyramidal bed-plate containing different sizes; C, micrometer screw; D, ratchet-wheel attached to screw; E, lever actuating the micrometer screw by means of a pawl engaging in teeth of ratchet-wheel; F, arm carrying a dog, which prevents back motion of screw; G, regulator for limiting the throw of lever, and consequently governing the micrometer screw; H, lever nut for fixing regulator; I, index, with pointer and graduated scale, from $\frac{1}{2400}$ inch to $\frac{1}{200}$ inch; K, knife for cutting sections; L, knob to turn micrometer screw direct when pawls are detached; M, table clamp; T, table of microtome, with glass top to facilitate cutting.

Fig. 2.—A, B, tube contain'ng specimen which is surrounded by freezing mixture in tin receiver C, D; E, F, revolving hopper with wings; W, W, for stirring the ice: G, outlet for melted ice.

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Ethidene-dichloride has been given by Dr. J. T. Clover 1,877 times without a fatal result. In his 1878th case, however, the patient died. Autopsy revealed a fatty heart.

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* See "A New Method of Preparing Large Sections of Nervous Centres for Microscopical Investigation," Journal of Anatomy and Physiology, vol. xii.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 11 *to July* 17, 1880.

Simons, J., Lieut. Col. and Surgeon. Granted leave of absence for one month. S. O. 118, Dept. of the East, July 15, 1880.

Winne, C. K., Capt. and Asst. Surgeon. Assigned to temporary duty at Ft. Brady, Mich. S. O. 116, Dept. of the East, July 12, 1880.

Price, C. E., Capt. and Asst. Surgeon. Granted leave of absence for two months with permission to apply for two months' extension. S. O. 154, A. G. O., July 15, 1880.

Comegys, E. T., Capt. and Asst. Surgeon. Granted leave of absence for one month, on Surgeon's certificate of disability, with permission to go beyond limits of the Department. S. O. 135, Dept. of Texas, July 8, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending July 17, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
July 10, 1880.	0	6	28	4	21	36	0	0
July 17, 1880.	0	5	22	5	23	36	0	0

"Songs of the Cranial Nerves" is a pamphlet of fifteen pages, and forms a novel contribution to anatomical mnemonics. Each of the cranial nerves is down in rhyme and set to various popular tunes, such as "Marching through Georgia," "Captain Jinks," "Auld Lang Syne," etc. Much labor and ingenuity have been shown in reducing the descriptions to meter and rhyme, and the author has certainly succeeded very well. The cranial nerves are the bane of the medical student, and as rhyme can always be more easily remembered than prose, the present verses will be likely to help the learner very much.

Determination of Sex in Utero.—We are in receipt of a letter from Dr. J. C. Kendall, of Norwalk, Conn., in regard to this subject. He states that of the various theories which have been proposed in the past three years, none are at all satisfactory, and the subject remains very nearly in *statu quo.* The history of some families seems to indicate that there is some law, however, else why are there only males in one family and only females in another. Dr. Kendall questions very seriously whether the theory of different degrees in height of orgasm has anything to do with determining sex. The sperms and ova are all prepared before coition, and the height of orgasm could scarcely affect them.

Then as regards the theory that the time of coition relatively to menstruation has something to do with determining sex, how on this hypothesis can we explain the variation in sexes in cows who are always brought to the bull as soon as heat begins. Furthermore, Dr. K. has known of cases in which a sheep always produced offspring of a single sex; and of a bull who was famous for always producing heifer calves; in so much so that a female was almost guaranteed by the owner.

Dr. Kendall asks for further light upon the subject. This unfortunately cannot be given for the simple reason that no one yet knows how the sex is determined. The fact that will probably be most widely accepted in regard to the matter is, that vigorous parents are more likely to have male offspring. It is very rare to find a physically weak couple who have a family of males. It is not likely, however, that any single thing determines the sex, it is the result of a number of factors which we are yet far from knowing.

Further Anatomical Uses of the Cat.—In an article in *Science*, by Prof. Burt G. Wilder, entitled "A Bit of Summer Work," the question of how to employ profitably some of the summer vacation is discussed and a suggestion in answer made. The brain, says Prof. Wilder, is not only the organ least satisfactorily treated in text-books, but at the same time the one concerning which the most should be known, from the double stand-point of physiology and psychology. This objection, however, is generally raised: that it is very difficult to get human brains to dissect, and that from these alone can one get a knowledge of man's cerebral structure. So far as this proves the fact, that from a single animal brain, perfectly fresh or well preserved, more may be gained than the average medical student learns from the human brains usually examined in the dissecting-room. This is due to the fact that, excepting the absence of the occipital lobes of the hemispheres, the brains of the cat, the dog, the rabbit and the sheep, present nearly all the structural features of the human brain, while their smaller size and greater accessibility better adapt them for manipulation. Of these animals the brain of the cat is on the whole the most available. Descriptions of the brain of the dog, the sheep and rabbit are given in the little works of Morrell, Foster, and Langley.

Influence of the Moon on Death.—*Just before the new moon.*—Camden died in 1623, a day before the new moon; Harvey in 1657, a few hours before; Milton in 1674, two days before; Newton in 1726, two days before; Whitfield, in 1770, a few hours before; Dr. Warren, a day before. *Just at the new moon.*—Henry Jenkins died at the age of 169, on the day of the new moon; also Elizabeth Stewart, aged 124. It is to be hoped that no one will doubt these ages merely because they are not fully proven. *Soon after the new moon.*—William Leland, aged 140, died on the day after the new moon; John Constant, aged 113, two days after; George I. in 1727, three days after; Sterne in 1768, two days after; Garrick in 1779, three days after; Dr. Johnson in 1784, two days after; Dr. Franklin in 1790, three days after; Sir Joshua Reynolds in 1792, one day after. *On the first quarter.*—Chaucer died in 1400, on the day of the first quarter; also Henry VIII., in 1547; also Cornaro, in 1566; Wilkes in 1797; while Rousseau died in 1778, one day after the first quarter. *Just before the full moon.*—Cardinal Richelieu died in 1642, three days before the full moon; Sydenham in 1689, two days before; also Locke in 1704; Louis XIV. in 1715, a few hours before; Marlborough in 1722, two days before; Linnæus in 1778, two days before;

Sir William Hamilton a few hours before. *Just after the full moon.*—Thomas Parr died, aged 152, two days after the full moon; John Effingham, aged 144, two days after; also Elizabeth Hilton, aged 121; Luther in 1546, three days after; Calvin in 1564, two days after; Shakespeare in 1616, one day after; Vandyke in 1641, two days after; also Oliver Cromwell; also Queen Anne in 1714; George II. in 1760, one day after; Lord Guilford in 1722, three days after; and Washington, three days after. *At the full moon.*—Swedenborg in 1772, on the day of the full moon; also the Earl of Chatham in 1778; Burke in 1797, on the very instant of the full moon. *Last quarter.*—Copernicus died in 1543, on the day of the last quarter; also Queen Elizabeth, in 1603, while Bacon died in 1676, one day after.

Dr. Mosely says: "Here we see the moon, as she shines, like the sun, on all alike while living, so she makes no distinction in her influence on the dying, a few millions of whom pass away every day in the year, some before, or after, or at every change of the moon."

A SUCCESSFUL CASE OF LITHOLAPAXY, FOLLOWED BY ADHERENT STONE.—Dr. R. F. Dyer, of Ottawa, Ill., sends us notes of the following case: A patient, aged thirty, had suffered from stone in the bladder for several years. He was operated on last August by Dr. Dyer. Chloroform being given, the Bigelow lithotrite was passed, and a stone, measuring one and a quarter inches, was at once seized and crushed. The operation lasted one hour and three minutes, reckoning from the time when the anæsthetic was administered. Several small stones were passed through the catheter. The patient resumed his work in a few days, and continued it until May 2, 1880. He then presented himself again, and was discovered to have a small stone adherent to the left side of the bladder, about two inches from the internal orifice of the urethra. The stone was after some effort detached. A few days later the patient was again etherized, the stone crushed, and the débris washed away. The time consumed was just twenty minutes. The patient resumed work two days later and has not complained since. The stone last crushed was one-quarter of an inch in diameter. Dr. Dyer queries whether it was not a splinter of the first operation.

A CASE OF HYDATIFORM MOLE.—Dr. W. H. Sharp, of Volcano, W. Va., writes to us of a case of hydatiform mole occurring recently in his practice, which had some peculiar features. The patient was a delicate woman, single, and twenty-one years of age. For three years she had not been well, but had suffered from scanty menstruation, and eighteen months before had had hysterical convulsions. For the previous year she had felt a lump in her abdomen; four months before, after exposure to cold and wet, she became dropsical. On seeing her January 16th she was extremely anæmic and dropsical, passed but little urine, and that was one-fourth albumen. There was scanty menstruation at the time. Under diuretics, cathartics, and jaborandi, the dropsy disappeared, but a slight metrorrhagia continued. No casts were found in the urine. February 3d, the patient passed per vaginum a large mass of hydatiform moles.

The areolæ of the nipples were noticed to be enlarged and darkened. Ergot and iron were given. On February 20th a vaginal examination showed the uterus enlarged, os patulous, some hemorrhage, and a discharge of glairy mucus and cysts took place. Tr. iodine co. was freely applied to the cavity. Twelve days later a large amount of the cysts was scraped away with a copper wire curette. During the succeeding weeks the compound tincture of iodine was frequently applied. The uterus gradually returned to its natural size. For the past two months the patient has been restored to health, and has menstruated freely.

The case is curious from the long retention of the mole—probably over two years—and the profound impression its presence made upon the system.

THE AGES OF PHYSICIANS IN NEW YORK CITY.—Dr. S. A. Hills, of this city, sends us the following interesting note:

In looking over your notice of the "Medical Register," by Dr. Wm. T. White, I was led to examine the list of physicians in New York City there given. Perhaps the result may be of interest to some of your many readers, who may not have the "Register" at hand.

Of the 1409 names there given, I find the patriarch of the profession to be Dr. James Anderson, a graduate of the College of Physicians and Surgeons of New York in 1820, and nine others whose graduation antedates fifty years, viz.: Dr. Geo. Lindsay, Joseph W. Richards, James O. Smith, in 1825; Dr. Joel Foster, 1826; James O. Pond and A. C. Post, 1827; Oliver P. Hubbard, 1828; Jared Linsly and Ovid P. Wells in 1829.

In the next decade, from 1830 to 1840, I find 61 names, among whom are found some of our New York's best known and honored physicians, viz.: Drs. Parker, Flint, Clark, Hamilton, Detmold, Wood, Sims, and many others, Drs. Parker and Detmold being graduates of 1830. The next ten years, 1840 to 1850, 97 names, and here, too, we find the names of many well known to fame. Between 1850 and 1860, 198 names whose hairs do not indicate life's work done. The next decade, 1860 to 1870, 371 names, all supposed to be in prime working order. From 1870 to 1880, 599 names, and 48 of the newly made graduates of 1880.

It will be seen that the last ten years has added largely to our numbers, and the last half of this period, nearly one-third of the entire number.

There are a few names whose date of graduation is not given.

The list contains the names of 15 female physicians. Dr. Emily Blackwell leads in priority, having graduated in 1854. All but two, graduates since 1870, and mostly from the Woman's Medical College of New York.

FOUL AIR IN THE PUBLIC SCHOOLS.—One of the teachers in the Twenty-fourth Ward died recently, it is said, of malarial fever, contracted by her in the school-house. The same disease has prostrated or seriously weakened nearly all the teachers in the primary department of the same school, and some of the children are suffering from it.

NERVE-STRETCHING AS A REMEDY FOR SCIATICA.—Dr. Jas. P. Bramwell reports, in the *British Medical Journal*, five cases of sciatica successfully treated by stretching the nerve. Dr. B. considers that when sciatica is due to a rheumatic inflammation of the nerve itself (which is its most frequent cause), stretching will be quite sure to relieve the trouble. His theory is that there is often an adhesive neuritis which binds the sheath to the nerve. The stretching breaks up these adhesions. The counter-irritation produced by the operation is also of benefit. The operation sometimes has to be repeated.

Medical Collection Agency Fraud.—A correspondent from Providence, Rhode Island, writes: "Permit me to inquire if others besides physicians in Providence have not been wheedled out of a moderate membership fee in what has proved to be a bogus collection agency, by the very plausible and modest Mr. ——, who visited this city last fall and winter, showing large lists of physicians who had subscribed to join such an agency, provided others, to the number of a hundred or so, would join, and promising, in return for the membership fee, to keep them permanently supplied with the combined delinquent lists of the membership, and to collect all bills placed in his hands for a very fair percentage. He issued one list here, and decamped, leaving part of a large lot of bills with an attorney here, who was wheedled into taking them, and leaving other bills for large amounts unaccounted for. I must add, for my own credit, that the bills of mine that he took were of little worth; but the point is that he kept them. He showed us a list of New Haven physicians who were delighted with the plan, etc., and I am informed that he left that place without even furnishing a single list of delinquents. He had also established agencies in Hartford, Portland, and other cities, and their names on his paper gave him a quasi endorsement that quite deceived us. As your paper goes everywhere, it may circumvent his further fraud."

Dr. Buchanan at Liberty.—The notorious Dr. Buchanan, of Philadelphia, of bogus diploma fame, of whose arrest mention was made in a recent number of the Record, has been released from prison, after furnishing bail, to appear for trial, in the sum of $12,000. The bail originally required was $5,000 in the United States Courts, and $6,000 in one of the County Courts, but when this was finally obtained he was obliged to give $1,000 additional bail on account of two indictments, which were found against him some years ago, and on which the bail was forfeited by his disappearance. It looks at present as though the successful career of the Professor was to be brought to an untimely end. Still this prompt and efficient action of Justice may be followed by a period of inertia, of which the wily diploma seller will doubtless make good use. If any one of the incorporated medical bodies of Philadelphia would devote a few hundred dollars to retaining a legal adviser to keep watch upon the matter, the conviction of Buchanan would now be insured.

Health of the City.—The temperature in the city, although still high, has ceased to be excessive, and the mortality has in consequence gradually diminished, as the following table shows:

	Deaths.	Infants.	Max. Temp.
July 13	127	52	87°
July 14	117	72	89°
July 15	98	70	81°
July 16	116	61	87°
July 17	97	52	81°
July 18	97	53	80°
July 19	79	..	..
July 20	122	..	..
Total	853		

The total mortality for the previous week was 915. The total mortality among infants for the week ending July 3d was 804; that for the week ending July 17th, was 450.

Dr. Tanner's Fast.—The 23d day of Dr. Tanner's alleged fast was completed on July 21st. The experimenter was then in excellent condition and suffering very little. On the sixteenth day he began to drink water freely, and his condition at once greatly improved. The physiological facts connected with the past week, so far as they can be obtained, are presented in the accompanying table:

Day of Fast.	Weight. Lbs.	Amount of water drank. Fl. oz.	Urine passed. Fl. oz.	Sp. grav. of urine.
16th	132	32	19¾	1022
17th	133½	66	23¼	1018–20
18th	137½	58	36¾	1023
19th	136½	36½	21	1011–12
20th	135	43½	46	1002–10
21st	135	48½	42½	1005–6
22d	134	34½	38¼	1001–10
Total		319	226½	

Dr. Tanner has had no passage from the bowels since the first day of his fast. His temperature, pulse, respiration, and skin have been normal. Assuming then, the fact given by Valentin and other physiologists, that as much water is lost by the lungs and skin as by the kidneys, we reach the following interesting paradox: During the first four days after the faster began to take water, he took into his system 192½ fluid ounces of water; he lost, by the kidneys 100¾ fluid ounces, and by the skin and lungs (assuming the usual physiological changes) an equal amount, or about 200 fluid ounces in all. Yet he gained in bodily weight during that time 4½ pounds! Calculating upon the data for the seven days, above recorded, a similar difficulty is found. The supposition that the whole thing is a farce is at once suggested. There are, however, three sets of watchers with him all the time; a regular physician, a *Herald* reporter, and an eclectic. One estimate of the urea in the urine gives: on the first day, 29 grammes; the fifth day, 16 grammes; 18th day, 14 grammes.

Ice for the Sick.—An excellent charity has been initiated by the St. John's Guild. It consists in supplying ice to the sick poor. Tickets are given out to the Assistant Sanitary Inspectors and the doctors at the dispensaries for distribution.

Dr. Lyon Playfair, M. P., leaves England for this country August 12th.

Books Received.

Wood's Library of Standard Medical Authors: Female Pelvic Organs, etc. By Henry Savage, M.D. (Lond.). Third Edition. New York: William Wood & Co.

Orthopædic Surgery. By Jos. C. Hutchison, M.D., etc. New York: G. P. Putnam's Sons. 1880.

Carlsbad: Its Healing Agents. By J. Kraus, M.D., etc. London: Trübner & Co. 1880.

State Board of Health, Rhode Island.

Trans. Amer. Gynecological Society. Vol. IV. Boston: Houghton, Miflin & Co. 1880.

Chirurgie Antiseptique. Par Dr. Just Lucas-Championnière. Paris: J. B. Baillière et Fils. 1880.

Original Communications.

TRACHEOTOMY IN CROUP:

WITH REMARKS ON

THE PATHOLOGY, DIAGNOSIS, PROGNOSIS AND TREATMENT OF THE DISEASE, AND THE CAUSES OF DEATH IN FATAL CASES; WITH A REPORT OF THIRTY-FIVE OPERATIONS.

By JOHN H. RIPLEY, M.D.,

SURGEON TO CHARITY HOSPITAL: PHYSICIAN TO ST. FRANCIS' HOSPITAL, NEW YORK CITY.

PART V.

General Treatment.—Some authors recommend the discontinuance of all medication *as soon as tracheotomy has been performed;* but I suppose this advice is intended to apply to those cases only in which there is no serious constitutional disturbance; for, if there be any remedy which exerts a curative influence over the disease, it should certainly be continued after the operation. Is there any such remedy? I have already expressed my own belief to the contrary. Whenever any treatment of real value is discovered, the profession are not slow to adopt it. Indeed, the majority of physicians are only too willing to follow the advice of Dr. Clark to his students in regard to new remedies: "Gentlemen, use them while they cure." The best proof that no one plan of treatment now in use is very much superior to many others, is the fact that among practitioners there is no uniformity of treatment.

By a large and intelligent vote the profession have decided to pretty much give up the use of *calomel* in diphtheria, except as a cathartic, and yet there are a few who still believe it to be a specific in this disease, and furnish, from time to time, their quota of well attested cases which have been cured by its early and free use. *Bromine*, which was highly recommended for its supposed specific effect on the poison of diphtheria by a distinguished teacher of medicine in this city twenty years ago, was subsequently abandoned by its advocate as of no special value. His partner said to me a few months ago: "We found, after a more prolonged trial of this drug, that we lost just as many cases with it as without it." More recently it was again brought to the notice of the profession as a specific in diphtheria by a prominent therapeutist, but it has not now many advocates. If given in the large and frequently repeated doses deemed necessary in order to get its full beneficial effect, it will not long be tolerated by most stomachs, and this is a serious objection to its use; for, when once the stomach is disordered in this disease, it often remains weak and irritable throughout the sickness, and nutrition cannot thereafter be maintained. Still, if it would cut short the disease, this objection should not prevent its being used. I have given it a pretty fair trial, with negative results. Friends of mine have resorted to its use with the same unsatisfactory experience. Quite an amusing incident connected with this subject occurred in a hospital a few years ago. It shows the danger of attributing to drugs effects for which they are not in the slightest degree responsible. A young man was admitted into my wards suffering from a severe attack of diphtheria. His pulse was 150 and temperature 105½°. His tonsils, soft palate, and pharynx were covered with a thick, dirty-gray membrane. Both nares were plugged with membrane, so that he was compelled to breathe entirely through the mouth. He had been sick two days, and had not been under treatment. I said to the house staff: "We will give this man bromine and see whether we observe any marked effect from it." The following prescription was given to the apothecary:

℞. Brominii,
Potassii bromidi....āā ʒ ss.
Aq. cinnamomi....... q.s. ad ℥ iv.
M. S.—Teaspoonful, in milk, every two hours.

The progress of the patient toward recovery was most rapid and satisfactory, and began at once. On the third day after his admission I saw him a second time. The membrane had nearly disappeared from the fauces and nose—although no local treatment whatever had been used—his temperature and pulse varied little from normal, and his appetite was returning. I called for the bottle which was "curing" him. It contained an almost colorless fluid with a whitish sediment. The odor of bromine was exceedingly faint. A simple explanation followed. The druggist, not being acquainted with the physical properties of this medicine, had opened the tin can containing the bromine bottle buried in plaster-of-Paris, and had mistaken the packing for the "specific." As there was no indication for changing the treatment, it was continued for a couple of days longer, when the patient was discharged "cured."

"The chlorine mixture" (made by putting eight grains of chlorate of potassa into a strong pint bottle, pouring upon it a drachm of strong hydrochloric acid, corking the bottle until the violent action ceases, and then adding water, ounce by ounce, corking and agitating after each ounce, until the bottle is full), had at one time a great reputation for curing both scarlet fever and diphtheria. My first knowledge of it was obtained from a professor of surgery of this city, nearly twenty years ago. He spoke of having seen it used with great success in his native town during a terrible epidemic of diphtheria, in which no other treatment seemed to be of any avail. Having myself just come from a village where this dread disease had prevailed with fearful mortality, even in some instances sweeping off whole families, I treasured up the knowledge of this wonderful mixture for future use. My first experience with it, a few years later, led me to believe that it was, indeed, a sovereign remedy. Nearly all the patients that I treated with it recovered. If now and then one died, an explanation was easy and plausible. Either I did not see it early, or my directions were not carried out, or some inconsequential complications changed the result. I remember well a family of four small children that I treated successfully with this mixture. They all had naso-pharyngeal diphtheria and swollen necks. Wherever there occurred a little abrasion of skin or mucous membrane, there also soon appeared a diphtheritic membrane. They lay listless and apathetic for several days, breathing only through the mouth. Great difficulty was experienced in inducing them to take medicine or nourishment. Brandy, milk, beef-tea, and the mixture were given internally. The noses were syringed out twice daily with a solution of salt and water. All recovered, and all were subsequently more or less paralyzed. Was it the specific that cured them? I thought so then, but I do not now. After using this preparation for nearly two years, I came to the conclusion that, as a specific, it was a failure. Fatal cases occurred under its use, even when abundant time was given for it to act, and there was no special reason why it should not cure. I saw equally good results with other drugs in the hands of other doctors. It was a strong and unpleasant remedy. I gave it up.

Tincture of chloride of iron was a favorite remedy in erysipelas and scarlet fever, and many other infectious diseases, and seemed to be indicated in diphtheria. *Chlorate of potassa* was very justly held in high repute in the treatment of the different forms of stomatitis, besides having certain other clinical recommendations. I thought the combination of these two drugs ought to make an efficient remedy in diphtheria. For over ten years I have been using either the combination, or one or the other of the drugs, separately, in large and in small doses, frequently repeated and at long intervals. I have tried to ascertain whether any special effects followed their use in diphtheria. Certain patients have taken them for weeks without any apparent effect whatever on the progress of the disease. One young woman in St. Francis's Hospital, took ten grains of chlorate of potassa every two hours for eleven days, and still the disease progressed. We then gave her half-drachm doses of the muriated tincture of iron for ten days more, when she died. The membrane, which only occupied a portion of one tonsil when we began treatment, gradually extended over the pharynx, soft palate, through the nasal passages, larynx, and trachea, and was found at the autopsy lining the bronchi as far as the fifth or sixth division. Cases equally illustrative of the negative effects of these medicines have repeatedly come under my observation. Of course, it is not common for the disease to last as long as three weeks; at least the membrane, whatever the treatment; but such cases show that it *may* last three weeks, in spite of any power which these drugs possess. Many of the croup cases reported above had the full benefit of these remedies, but without marked result, so far as I could see. We know that quinine sometimes fails to cure intermittent fever; but, as a rule, it does not, and we prescribe it with confidence. But, with regard to drugs in diphtheria, I believe, as I have said before, that none of those now in use have any controlling influence over that disease. The only rational plan of treatment, in my opinion, is a symptomatic one. Stimulants and extra feeding are always indicated in grave cases.

The *surgical fever* following tracheotomy, ordinarily is slight, and does not demand quinine; but, if a malarial influence be present, it should be given in sufficiently large doses to destroy it at once. The tendency to *cardiac paralysis* can best be combated with digitalis, strong infusions of green tea given, if necessary, by the rectum, and champagne. I have tried strychnine, with negative results. *Diphtheritic nephritis* does not call for any special treatment, unless the urine become scanty, or uræmic symptoms be developed, or both. In case special treatment is indicated, large, hot, flaxseed-meal poultices, mixed with foxglove leaves, may be applied over the lumbar region, and sweet spirits of nitre given internally. Diaphoresis may also be promoted by the use of extra clothing and bottles of hot water rolled up in flannel, and placed around the patient. My experience with active diuretics in acute inflammatory diseases of the kidneys has led me to believe that they do positive harm. I have seen the quantity of urine voided steadily diminish with their use. When persistent vomiting depends on uræmic poisoning, small doses of morphine (given hypodermically if need be) seem to control it better than anything else that I have tried. In some cases there is complete suppression of urine, and the children then generally die in a few hours. The silly statement that this invasion of the kidney will not often occur if the disease be properly treated, is too absurd to require contradiction.

When once the membrane has seriously invaded the bronchial tubes, as evidenced by increased frequency of pulse, hurried breathing, rise of temperature, labored, "sawing" respiration, and harassing cough, a fatal termination is foreshown. Then steam, sprays, probangs, and bronchial emetics seem equally powerless to accomplish more than temporary mitigation of suffering. Finally, when all hope of recovery has been abandoned, small doses of morphine render the closing hours comparatively painless.

Prognosis.—My experience in tracheotomy for croup in this city, as well as my observation, would lead me now to believe that an average of not more than twenty or twenty-five per cent. of recoveries can be expected, if based on any considerable number of operations. The prognosis is always unfavorable; more so in some epidemics than in others; more so at some periods of the same epidemic than at others. During a lull in an epidemic, and also near its close, cases seem to be of a milder type and less protracted. In 1875 Jacobi said: "Since 1868 I have saved but a very small percentage of suffocating children, and still I cannot but stand by my former indication for the operation. It must not be omitted when obstruction in the larynx threatens to be the cause of death by suffocation." In 1868 he published a series of sixty-seven cases with thirteen recoveries—a good percentage when we know that he considers "no complication of disease or epidemic influence ought to be a contra-indication;" and, furthermore, that he is not likely to operate on a case unless the indication for it be clear.

My first ten cases were all fatal.* Dr. J. L. Little, of this city, had a nearly similar experience. Other surgeons with whom I have conversed on this subject have also had, at times, many successive failures. Success and failure do not alternate in regular order, from the very nature of the conditions. Gentlemen whom I have mentioned could probably make a very brilliant showing if they chose to select a small number of cures from some particular season or seasons. Again, some statistics are not reliable; not because the compilers had fraudulent intent, but from errors of judgment, and in diagnosis, and occasionally a treacherous memory has been at fault. Age is universally considered to have an important influence on results. Very young children—those under two years—rarely recover. Trousseau and others have attributed the increased mortality at this early age to traumatic fever. The cases herewith reported do not support that theory. My experience in the surgical diseases of children convinces me that children bear even the graver operations well; that tracheotomy produces little or no shock, and only slight, temporary, consecutive fever. If a temperature of 103°—105° should follow the operation—and this is giving the extreme limit—and continue for a day or two, it would not prove fatal. Infants, even, bear a much higher temperature for a more prolonged period, in other diseases, without serious danger. But at this tender age resistance to inflammatory diseases of the respiratory organs is comparatively slight. Tracheitis is always present after tracheotomy, and generally some little bronchitis.

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* These cases are not reported in chronological order.

In consequence of this, plugs of partially dried muco-purulent matter and shreds of membrane are sucked into the delicate bronchi, the expulsive cough of the child is too feeble to drive them out, and little by little they are drawn farther in, until the obstructed bronchi are completely occluded and collapse of the air-cells supplied by them is the result. Again, the extra strength required to carry on respiration through narrowed air-passages cannot long be furnished by these little ones, so that a limited bronchial croup, which might not prove fatal in older children, will soon exhaust them.

The foregoing appear to me to be the two main reasons why tracheotomy is so unsuccessful in very young children. A more extended experience may change or modify my views ; but, so far, both a clinical observation of symptoms and the *post-mortem* examinations which I have made, support them. I have had no experience in tracheotomy for croup in young persons between seven years and adult age ; I have no doubt, however, but that the opinion generally held, that the chances of recovery steadily diminish after about the ninth year, is correct. The explanation therefor, is substantially the same as that given by Trousseau for the uniform failure of the operation in adults, viz.: "As the adult has the laryngeal orifice proportionally larger than the child, and the calibre of the trachea also proportionally greater, the air finds sufficient passage even when the walls of these conduits begin to be covered with false membrane; and, by the time that the symptoms of croup declare themselves, the diphtheria has had time seriously to compromise the ramifications of the bronchial tubes." In other words, laryngeal croup in the adult does not often prove sufficiently obstructive to demand tracheotomy ; asphyxia supervening only when the membrane has extended to the smaller bronchi, and this latter condition is not relieved by an operation. This is true in a modified way of older children and youth. It would be reprehensible, I think, in either case, to allow a patient to die of asphyxia without the chance afforded by an operation. No man can tell beforehand how far the membrane extends, and accompanying inflammation of the parts may dangerously close the glottis, if not the membrane alone.

I have seen three cases of croup in the adult. One has already been referred to in this paper. I assisted Dr. Leroy M. Yale in tracheotomizing a married woman thirty-five years old, for secondary croup complicating general diphtheria. The relief was not marked, and she died in about twelve hours ; no *post-mortem* examination was made. I attended a woman forty years old, for primary croup, the membrane first appearing on the vocal cords and secondarily on the pharynx and soft palate. This patient was seen by Drs. Louis Elsberg and Beverley Robinson. The constitutional symptoms were mild. No local treatment except steam and poultices was used. She recovered.

Is the so-called membranous croup more favorable for tracheotomy than diphtheritic croup ? Or, in other words, is that form of the disease in which the larynx is first invaded, or invaded coetaneously with the appearance of membrane on the tonsils, and accompanied by slight constitutional symptoms, more or less likely to terminate by recovery after tracheotomy, than a croup developed during the progress of an attack of severe diphtheria? It is impossible to answer this question by yes or no, except conditionally. It will generally be conceded, I presume, that diphtheria is a self-limited disease ; that, after running a course of from a few hours to several weeks, according to the character of the epidemic and the idiosyncrasy of the patient, it may end in the recovery of the person diseased, even without medicine. Now, the longer the disease has lasted before croup sets in, the shorter the time remaining before it (the diphtheria) will exhaust itself. Hence, a later-developed croup would be more favorable for operation than one setting in early in the disease, if the causes of death should be found to depend mainly on a prolonged duration of the constitutional affection after tracheotomy, and not on accidental complications. Again, if, as many believe, pseudo-membranous croup be simply laryngeal diphtheria, then the above argument would still hold good. If it be a disease *sui generis*, then clinical observation alone must decide the question. Now, I believe that a majority of the unavoidable deaths after tracheotomy for true croup are due to extension of the membrane into the bronchial tubes. It follows therefore, that, as a rule, unless the constitutional symptoms be very grave, a secondary croup coming on late in the disease is less dangerous than a primary one. In short, the longer the disease has lasted before croup sets in, the less likely the membrane is to travel beyond the larynx. Of the thirty-five cases herewith reported, eighteen appeared to be primary croup and seventeen secondary croup. Of the eighteen primary, two recovered ; of the seventeen secondary, six ! But this is too small a number on which to base a positive opinion ; besides, most of these cases of primary croup were not fair types of the so-called membranous croup as described by authors. Occurring sporadically they might be less unfavorable.

Delayed operations.—Cohen, of Philadelphia, in his excellent and comprehensive monograph, "Croup in its Relations to Tracheotomy," speaking of the ill-success attending the operation in that city, gives as a principal reason therefor that, "probably, as a rule, the operation is postponed too long." Still, he says, farther on : "The indication for the operation exists whenever it is apparent that death from suffocation cannot be averted by any other means." This is explicit, and perhaps as good a guide as any verbal rule that could be given. The only difficulty with rules is, that we do not all see through the same spectacles. Those with a limited experience are apt to exaggerate the urgency, while those who have seen more of the disease sometimes wait too long. Those who favor early operations will no doubt have the better results, because they will occasionally tracheotomize unnecessarily and will lose none by delay. No experience, however great, can predict with unerring certainty the changes which may take place in a few hours, and hence, croup patients should be seen often. Inflammatory œdema may set in and run a very rapid and fatal course. With my views as to the causes of death after tracheotomy, I cannot believe that the mortality is so much increased by delayed operations as is generally supposed. Now and then a child dies on the table that would not have so died had the operation been performed earlier. Possibly erysipelas and cardiac paralysis are somewhat more frequent when an extreme condition of asphyxia and exhaustion is allowed to take place before operating. But the more common causes of death will prevail, whether the operation be done early or late.

Time for operating.—The indications should be, as a rule : continuous labored respiration, with its accompanying recessions of the epigastric and suprasternal walls during inspiration ; commencing asphyxia, as shown by restlessness, pale or congested face, bluish lips and conjunctiva, and rapid, feeble, perhaps irregular pulse. Profound systemic poisoning, or other complication, may make it more judicious to operate earlier.

Contra-indications.—If a child be dying of croup, and the family, after hearing the case fairly stated, consent to the operation, and especially if they desire it, I believe it is right to make the attempt, no matter what the complications. I once operated on a young man, at his own and friends' request, who at the same time was suffering from waxy kidney, hip-joint disease, and general diphtheria. He lived twelve hours—long enough to whisper his thanks for the relief which had been given him.

Causes of death.—It is the general belief that pneumonia is a very frequent, if not the most frequent cause of death after tracheotomy for croup. This belief is based on: 1, the theory that cold air admitted directly to the lungs through the opened trachea has a tendency to excite pulmonary inflammation; 2, that the presence of the disease in the larynx and trachea has a tendency to produce parenchymatitis by continuity of tissue; 3, that certain physical signs, occurring some time during the first three days after the operation, are best explained by a diagnosis of pneumonia.

1. So far as I know, the cold-air theory has no foundation in fact. On the contrary, attempts to produce pneumonia in tracheotomized dogs by compelling them to inspire both very hot and very cold air alternately, did not succeed; because, as was claimed, by the time the prepared air reached the smaller ramifications of the bronchial tubes, it had, in accordance with well-known laws, become of the same temperature as *the reserve air of the lungs.*

Again, in the few cases in which I have seen the operation done in the adult for laryngeal stenosis, no pulmonary trouble whatever has followed. A young man was tracheotomized by me in St. Francis' Hospital for chronic laryngeal stenosis of several months' duration, depending on chronic laryngitis. At the time of the operation the symptoms were very urgent, and pulmonary percussion was very tympanitic. The relief was complete, and no pulmonary hyperæmia or bronchial catarrh resulted, although he was allowed to breathe the ordinary air of his ward. After wearing the tube several weeks it was taken out and the wound allowed to heal. Some weeks later stenosis had again become so great that death from asphyxia was imminent, and tracheotomy was again performed, with a like result. A similar case with a similar result was also under my care several years ago. Both of these patients were seen by Prof. Louis Elsberg. It is not an uncommon thing to see patients who have worn tubes for months, and even years, outdoors and indoors, and in all kinds of temperature, without detriment. But, in the case of these croup children, the air, as a general rule, is kept both warm and moist, and yet these *post-tracheotomy* symptoms are developed just the same.

2. Steiner quotes from Niemeyer (Ziemssen, vol. iv., pp. 250–1), in discussing the question of the causation of bronchial catarrh in croup, as follows: "When the thorax expands and the pulmonary alveoli enlarge without admitting a proportionate quantity of air, the air in the bronchi and alveoli must become rarefied, and must act upon the bronchial mucous membrane and inner wall of the alveoli in the same way as a cupping-glass does upon the skin, producing hyperæmia and increased transudation from the vessels in consequence of the diminished pressure upon the walls of the vessels." If it were true, as Steiner asserts, that "bronchial catarrh is an almost constant accompaniment of croupous laryngitis," we might discuss the question of its causation. But if we except those cases in which it precedes the croup, and those in which it depends either on uræmia or the actual presence of membrane in the affected bronchi, I do not think it is present, as a rule, to any extent. I base this opinion on quite a large number of cases carefully examined—examined, too, at a time when this condition should be found, if it be a consequential complication—just after tracheotomy was performed. There is laryngotracheitis in all post-tracheotomized cases, and generally a few bronchial râles may be heard on auscultation; but they are neither small nor numerous, nor have they a tendency to increase except from other causes than the simple extension of the original inflammation. I therefore discard this second theory.

3. The physical signs which, in fatal cases, gradually develop after the operation, are said to indicate pneumonia.

These are referable, for the most part, to the pulse, the temperature, and the respiration, and are generally first observed about the beginning of the second day after the operation, and continue to become more and more marked until the close of the third or the beginning of the fourth day after the operation, when death ensues.

The *pulse*, although it increases in frequency in these cases, has no uniform quality, being sometimes hard and wiry, at others soft and compressible. It indicates, in a general way, that the patient is not doing well, but it does not point to any particular lesion. The *temperature*, if carefully watched, will be found to differ from that of pneumonia in several respects. It does not generally run so high; it rises gradually and irregularly, and pursues no uniform course; it may even fall below normal at a period in the disease at which, if the cause were pneumonia, it should be at its highest point.

The *respirations* are hurried and labored, and accompanied by supra-sterno-clavicular and epigastric depressions during inspiration. The only points of resemblance between the respirations in these cases and those of pneumonia are, that in both instances they are hurried, and in both accompanied by cough and expectoration. In this connection I desire to correct the very common error into which writers on croup have fallen in stating that in the advanced stage of the disease the number of respirations is diminished. Even Riegel, in his article on "Bronchial Asthma," says: "I must recall the analogous and long-known reduction of the number of respirations in croup, laryngeal stenosis, and the like" (Ziemssen, vol. iv., p. 563). It is only necessary to count the respirations in any given case of croup to prove that the reverse of this statement is true. They *appear* to be infrequent because we see the whole of the painful process and hear the long-drawn *stridor.* In the condition now under consideration, however, the air, passing to and fro through the obstructed trachea and bronchi, produces a sound which, if heard at a little distance from the patient, closely resembles that made by slowly sawing a thin board with a small saw. Hence the graphic phrase, "sawing respiration," which has been applied to it. Unless due to some temporary and easily removable obstruction, as partial plugging of the tube with inspissated matters or a loose piece of membrane in the trachea, it is an almost certain precursor of a fatal issue. It is the most depressing sound to me that I have ever heard from a child suffering from croup. It is a sign of extensive bronchial croup. In addition to this difference between the respiration of pneumonia and that under consideration, there is usually the all-important symptom of obstruction to the entrance of air into the deeper recesses of the lungs—the supra-clavicular and epigastric recessions during inspiration. This is precisely what takes place when the larynx is obstructed, although not often to the same degree. In the former case, by opening the trachea and freely admitting air, these recessions no longer recur. But, unfortunately, in this secondary invasion no means of relief has yet been devised. Niemeyer, in discussing the mechanism of this symptom in primary croup, remarks: "If the air can enter the air-passages with freedom, the diaphragm, upon contracting, causes its *pars tendinea* to descend, but produces no incurvation of the ribs, for their resisting power is far greater than that encountered by the diaphragm in the elasticity of the lung or in the feeble pressure of the abdominal viscera. If, however, the tendinous centre be drawn up by the rarefaction of the air in the lungs, or if it be only fixed and hindered from moving downward, the inspiratory contractions of the muscles of the diaphragm must then, of necessity, cause the arch of the ribs to curve inward." But when the obstruction is very great, not only the epigastrium and tissues at the root of the neck sink in, but also the intercostal muscles. The column of air entering the lungs being smaller than normal, the bronchi are only partially filled, and to a certain extent collapse.

To compensate for this diminution of the size of the lung and thereby prevent a vacuum, the above changes in the relations of the diaphragm and chest-walls seem insufficient, and the deficiency is made up by a hyper-inflation by rarefied air of the easily distended air-cells. This abnormal dilatation of the air-vesicles I believe always exists in laryngeal or bronchial obstruction (if not complete), and is recognized by percussion during life. It was this vesicular dilatation during attacks of asthma, as recognized by percussion, that led Wintrich to believe that that disease could not depend on bronchial spasm; "for," he said, "the limits of the lungs should be rather rendered smaller by the asserted muscular spasm, as it is not to be supposed that it would always obstruct the exit of the air during expiration, and, on the contrary, would admit it into the vesicles during inspiration." The explanation above given of this condition in croup will apply with even greater force in asthma, because we have in the latter disease, in addition, a forcible reduction in size of the bronchi. It may be, however, that in bronchial croup *also* there is sometimes consequential bronchial asthma; there certainly is sufficient ground on which to base that theory. At all events, there is the strongest positive proof that we generally have associated with it more or less collapse of the lung, which makes an additional demand on the distensibility of the pulmonary alveoli.

The results of a *physical examination* of the chest in these cases do not point to pneumonia as the cause of the trouble. Percussion is usually more tympanitic than normal; but it may be very little changed, or there may be areas of dulness alternating with areas of normal or tympanitic percussion. This sign is not always a trustworthy one in young children, on account of rachitic deformity or congenital asymmetry of the chest-walls; so that, if the deviations from normal be not very marked, they will need confirmation.

The auscultatory signs likewise vary in different cases, and belong to one or more of these three diseases, viz., bronchitis, emphysema, and asthma. Sometimes no true respiratory murmur can be heard, nothing but conveyed sounds from the trachea and bronchi. Generally, when the case is far advanced, the râles are dry and muffled and the expiration prolonged. Over the dull areas there is often silence. Now, if any considerable portion of the lung were the seat of pneumonia, I think auscultation would reveal the bronchial breathing despite other morbid sounds.

Again, if this condition depended on pneumonia, would it so uniformly kill? And, if it did, would it always do it in about the same time—from 48 to 90 hours after the operation? My experience with pneumonia in children leads me to believe that a large majority recover from both the croupous and the catarrhal forms. Some of these croup-children, then, should, if pneumonia is what they die of. But, when "sawing respiration" is once established, death is inevitable. No exception to this rule has yet fallen under my notice either in my own cases or among those that I have seen under the care of other physicians. Finally, six *post-mortem* examinations on the bodies of children that have died in this condition—all that I have been able to see—confirm me in the opinion that bronchial croup, and not pneumonia, is the cause of death. Two of these autopsies are herewith reported and are specimens of all. Now, I do not wish to be understood as denying that a child occasionally dies of pneumonia after tracheotomy. I have myself given what I believe to have been an example. But what I do deny is that it is a common cause of death, or that it is the cause in a majority of those cases in which it is assigned as the cause. Steiner, in seventy-two autopsies, found lobular pneumonia only eight times and lobar diffuse pneumonia only six times. He does not state that in these cases, ever, it was the cause of death, although he does not state the contrary. I believe that a certain number of cases of collapse are called pneumonia, even at the autopsy, because no test of the permeability of the air-cells is made. As Juergensen says: "Inflation is the best means for distinguishing truly inflamed from simply collapsed portions." There can be no doubt but that many of these children *would* develop catarrhal pneumonia in the collapsed portions, if they could live long enough.

The sad, avoidable death of the little girl Kelly (No. XXXII.), from obstruction of the tube after all danger from the disease was apparently over, emphasizes the remarks of Cohen on this point: "It is therefore of the greatest importance that a competent attendant—by preference, a medical man of some judgment and familiar with the nature of the accidents which follow tracheotomy and the use of a tube—be at the side of the patient, or, at least, within immediate call, until all danger from this source has passed." Unfortunately, in a large number of cases this is impracticable. I have no doubt but that, with a competent nurse to take charge of the after-treatment, our percentage of recoveries might be considerably increased.

Diphtheritic nephritis is, I believe, more often a controlling cause of death than is generally supposed. Other causes of death found in the preceding tabulated statement need no special comment.

The following are some of the conclusions arrived at from the study of these and other cases of croup:

1. That the operation of tracheotomy on young children for croup, in its imminent peril to life, is one of the most dangerous operations in surgery.

2. That when the operation itself is safely completed, its secondary effects are not to be feared.

3. That from 20 to 30 per cent. of the cases operated on recover.

4. That tracheotomy will permanently relieve the distressing dyspnœa in more than half of the cases operated on.

5. That of those who subsequently die of bronchial croup, a considerable number suffer less than if they had been abandoned to their fate without an operation.

6. That it is always a justifiable procedure in croup, if the paramount factor in causing death be apnœa.

7. That the importance of operating early in the disease has been greatly exaggerated.

8. That early operations are sometimes needless operations.

9. That, as a rule, any prognosis based on the condition of the child before the operation is unreliable.

10. That nasal diphtheria, *per se*, does not add gravity to the prognosis.

11. That having a specially skilled nurse to attend the patients during the after-treatment would increase the number saved.

12. That, if there be an inflammatory exudative croup in contradistinction to diphtheritic croup, clinical observation has not enabled me to differentiate it.

13. That the medical treatment must be conducted on general principles, none of the pet drugs now in use being in any degree specific.

14. That the tube should be permanently removed as soon as respiration can be carried on through the larynx—the only certain test for this being to temporarily remove *both cannulæ*, and prevent the admission of air through the wound by stretching a piece of oiled silk or other impermeable substance over the opening.

15. That the tracheotomy wound, as a rule, needs no special treatment. If it be the seat of large and troublesome granulations, these may be destroyed with any of the stronger caustics—preferably nitric or acetic acid.

Doctor of Electricity (!).—The American Electropathic Institute recently applied to the courts in Philadelphia for a charter giving power to confer the Doctorate of Electricity. The charter was refused on the ground that the instruction was to be limited to the subject of electricity and its properties, while the public would be apt to look upon its graduates in the light of qualified practitioners of medicine and surgery; hence there was a source of danger to the community. The opinion of the Court contains the following well-based conclusions:

> Whatever may be the value of electricity and magnetism as curative agents, a knowledge of their principles in their application to disease does not comprehend the degree of learning which the law and the interests of society as well require in a practitioner of medicine.
>
> The corporation sought to be created would sustain, in its relation to the public, the character of a medical college, and it is this character, while its course of instruction is thus limited, that is without authority of law and liable to become a source of danger to the community.

FRACTURE OF THE INTERNAL CONDYLE OF THE HUMERUS WITH DISLOCATION OF THE HEAD OF THE RADIUS.

By THOMAS M. MARKOE, M.D.,

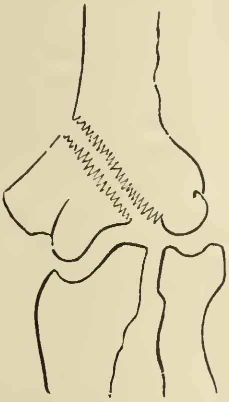
NEW YORK.

(Read before the New York Surgical Society.)

Fractures of the internal condyle of the humerus, embracing the whole or nearly the whole of the trochlea, are alluded to by all the systematic writers. The symptoms which characterize it are given by very few writers with any fulness of detail, and by none of them with any attempt at differential diagnosis; most of them being content with a bare statement of the injury, leaving the signs to be inferred, rather than attempting even an enumeration of them. Dr. Hamilton, however, in his latest edition, gives a very full account of the signs of this fracture, but does not dwell on diagnosis, and indeed, does not allude to the close similarity which the displacement sometimes presents to that of a dislocation of the forearm backward, though he quotes Sir Astley Cooper as saying that this injury is frequently mistaken for a dislocation. Gurlt also gives the signs of fracture of the internal condyle quite as fully and indeed rather more in detail than Dr. Hamilton, and both writers allude to the fact that the fracture of the condyle is sometimes connected with a dislocation of the head of the radius backward. Neither writer, however, gives any details as to the peculiar features of this last condition of the injury, except as quoting from a paper which I published in 1855 on this subject. At the time of preparing that paper my attention was chiefly occupied with the study of dislocation of the radius, and the article was intended to show the dependence of the dislocation upon the fracture; my confident belief being that a dislocation of the radius backward can never take place without one of three conditions being present, viz.: either, 1st, such a bending of the forearm on the arm that an angle of nearly 45° will show on the radial side of the joint; or, 2d, such a bend of the hand to the radial side as must be produced by drawing the whole radius at least an inch upward, while the position of the ulna remains unchanged; or, 3d, a fracture of either the shaft of the ulna or of the internal condyle. In following this idea the paper alluded to was published in the *New York Journal of Medicine*, in May, 1855, and it is upon the cases and descriptions of this paper that both Dr. Hamilton and Gurlt chiefly found such remarks as they offer on this subject. I know of no other author who has given special attention to this injury, and I therefore have considered that I might fairly claim to be the first to direct attention to its practical importance. On the more common form of fracture of the internal condyle it is not my purpose to dwell. All the writers who specially mention it agree in saying that it is accompanied with but little displacement, and that in a backward direction, increased during extension and diminished during flexion of the forearm on the arm. At the same time crepitus is mentioned, and local mobility of the separated fragment when firmly grasped. These injuries are stated to be always produced by direct violence, as by a fall on the elbow, and very little is said about the ultimate effects on the motions of the joint.

I have no fault to find with this account of the injury, and nothing to add to it. I consider that it gives a fair picture of the accident in a certain number, perhaps a majority, of its examples. I have long been convinced, however, that there are a certain number of these cases which have a different cause, take a different course, present some very different features, and tend, if not recognized, to a much more serious impairment of the usefulness of the elbow-joint than the statements in the books would lead us to anticipate.

In these exceptional cases the original lesion is the same as that described as belonging to fracture of the internal condyle, viz., a breaking off of the condyle in such a way as to include a considerable portion of the trochlea in the broken fragment. If now the injury has been received in such a way that the force has been applied directly to the elbow, there is no mechanical reason why any marked displacement should occur. If, however, the force has been received on the hand and transmitted through the ulna to the internal condyle, then it seems manifest that if the force be great, and if it be continued in action after the bone has given way, the tendency to displacement will be in the line of the acting force, and the whole forearm will tend to be thrown backward, precisely as happens in an ordinary dislocation. This is the condition of the injury to which I wish to ask the attention of the society.



And here it seems to me that a more just appreciation of the points involved will be gained if we consider a moment the physiology of the elbow-joint. A glance at the diagram will remind the Society that, of the two bones of the forearm, the ulna is the one which is really articulated with the humerus. The radius, though touching the capitellum, to which it is loosely attached, being chiefly articulated with the ulna, to which it is bound by three sets of ligaments, is so arranged as to allow the radius to roll around the ulna in the movements of pronation and supination, at the same time that it is so firmly attached to it that any separation of the two bones can only be accomplished by extraordinary violence, and is in point of fact one of the curiosities of surgery. Physiologically speaking, the radius may be regarded as an elongated carpal bone, its shape and attachments being such as to give it the movements of pronation and supination, which are truly movements of the hand, and not of the forearm. It is also evident that the connection of the radius with the humerus is not a physiological necessity. While we must acknowledge that the movements of flexion and extension of the forearm on the arm are steadied and strengthened by the increase of the base line at the point of motion, it is at the same time evident that all the movements of the forearm and hand can be supposed to be executed by a radius which does not reach the capitellum. This comparative independence of the radius in its relation to the humerus has, in the study in which we are engaged, this practical significance: it shows how force transmitted through the forearm is received principally on the trochlea, and it also shows that, if the trochlear support is in any way lost, the radius can do but little to prevent complete displacement of the joint-surfaces, and this chiefly by reason of the looseness and weakness of its attachments to the capitellum. These remarks I thought it desirable to make, that we may more intelligently appreciate some of the points in the history of the fracture which I wish to describe. The following case will serve to bring the subject definitely before us. I copy from my case-book the notes as taken at the time, now more than twenty years ago.

"Michael Lee, æt. 10, was admitted to the New York Hospital, Oct. 11, 1859. Five days before he had fallen from a horse, striking on his left side, with his arm twisted behind him. Great swelling and ecchymosis took place immediately, and at the time of his admission had not subsided sufficiently to justify us in making a thorough examination of the injury. The arm was laid in a comfortable position, and evaporating lotions applied. On the 17th the swelling had so far subsided as to give us a chance to examine the fracture. The internal condyle and the olecranon were in proper relation to one another, while the head of the radius had left the external condyle, and was easily felt rotating behind and to the outside of it. The whole aspect of the elbow was that of dislocation backward, the end of the olecranon projecting about an inch backward, and the end of the humerus making a rounded projection on the anterior face of the joint. The parts were so easily movable that it could further be distinctly made out that a considerable fragment of the internal condyle, broken from the shaft of the bone, remained attached to the olecranon and moved with it. The whole displacement could be easily reduced and the deformity removed, while on letting go the limb it was immediately reproduced. Dr. Van Buren saw the case with me and recognized the facts as above stated, and without hesitation agreed with me in the diagnosis of fracture of the internal condyle, involving so much of the basis of support of the olecranon as to allow of its displacement backward to a sufficient extent to permit the head of the radius to be also pushed backward, as in ordinary luxation. The displacement was reduced, and the arm placed at an angle less than a right angle, and so retained by an angular tin splint, a firm pad being placed on the prominent end of the humerus to keep it in place. On the 30th the apparatus was removed without my knowledge, and the young man reported that union of the detached fragment was firm and the joint in good shape. He was discharged the next day, Dec. 1, 1859, without my having had an opportunity of examining the arm."

It will be noted that the leading features here presented are: 1st, a close resemblance to an ordinary dislocation of the forearm backward; 2d, while the head of the radius has left its usual relation to the external condyle and can be felt below and behind it, that the olecranon, though thrown behind its natural position, has not left the internal condyle, but remains in its normal relation to it. The internal condyle can be felt to have followed the backward movement of the olecranon, and a sharp projection about an inch above the joint shows where the condyloid ridge of the humerus has been interrupted by the fracture; 3d, seizing the fragment thus displaced and moving it backward and forward, it can be felt to move independent of the external condyle, and in this manipulation crepitus is easily produced; 4th, on the anterior aspect of the joint a somewhat sharp protuberance can be felt, which is the end of the humerus from which the internal condyle has been detached. These are the signs which are derived from manual examination of the bony prominences of the joint. If clearly made out they are sufficient to establish the nature of the injury. Another sign, however, is not less important, and that is the facility with which the displacement is reduced. This easy reduction and easy displacement arises from the fact that the reduction is merely the replacement of the head of the radius in its normal position, with the restoration of the fractured surfaces to their proper apposition one with another, and from the further fact that when thus replaced there is nothing to hold the fragments together, except the head of the radius with its shallow cup in contact with the capitellum, which it does not embrace, and whose ligaments are already torn through by the injury. The slightest movement is sufficient to displace this head of the radius from its unstable position on the capitellum, and, when thus displaced, there is no longer anything to restrain the fractured internal condyle from backward displacement, and the original deformity is thus easily reproduced.

The diagnosis lies chiefly between the injury in question and the dislocation backward of the forearm. The resemblance between these two injuries is so striking, particularly after swelling has taken place and has somewhat obscured the anatomical points, that a mistake is easily made—a mistake, as I shall show hereafter, fraught with very serious danger to the ultimate usefulness of the joint. The diagnosis is founded upon three points: 1st, the changed relations of the bony prominences around the joint; 2d, facility of reduction and marked tendency to reproduction of displacement when unsupported; 3d, sharpness and smallness of anterior prominence of the lower end of humerus.

With regard to the first, we must note that the whole humeral extremity in the dislocation retains its relation to the internal condyle, and this latter can be felt forming the termination of the condyloid ridge, and placed far in front of its proper relation to the olecranon, which is projecting strongly backward and upward. In the fracture, on the other hand, the condyloid ridge is felt to be interrupted an inch or more above the joint, and the olecranon has not quitted its normal attachment to the internal condyle, which has followed it in its backward displacement. The change in the position of the head of the radius is the same in both injuries, and therefore, taken alone, will not assist us in their discrimination.

2d. Facility of reduction and redisplacement. In dislocation the prominent edges of the articular cavities, the untorn portions of the uniting ligaments, and muscular tension all combine to oppose obstacles to the return of the dislocated bone; but, when once the bone is back again in its proper place, some considerable force and some considerable extent of movement is required to reproduce the deformity. When once a dislocated elbow is reduced, we feel sure that by properly supporting the limb, and not allowing any moving of the elbow-joint, we shall retain all that we have gained, and we should feel confident, with these precautions, if we did not see the limb again for many days, that it would be found in perfect position. In the fracture, on the contrary, the easy reduction is followed by easy displacement, so that, as has happened in several of the cases I have seen in consultation, the surgeon has been astonished, after a perfectly satisfactory reduction of the supposed dislocation, to find on his next visit the original deformity exactly reproduced. This feature is not only strikingly characteristic of the injury in question, but is itself the explanation of the importance which should attach to the accurate recognition of its nature.[*]

This brings us to the prognosis. It may be very briefly stated: it is good if the injury be accurately recognized; it is very bad if it be misunderstood. A moment's reflection on the mechanical principles of an ordinary hinge will suggest the dangers which are likely to follow a fracture through the articular surfaces of the elbow-joint; the best example is the skeleton of a true ginglymoid articulation. If any portion of the receiving or received parts of an ordinary hinge be bent out of line, the movement of the hinge is impaired or destroyed. If the bent portion be restored to line, the movements of the hinge are again perfect. In the complex hinge of the elbow-joint any deviation of the articular surfaces from the line of motion of the joint, if once consolidated, will impair that motion, or make it impossible. Of course a total destruction of the motions of the joint from this cause can hardly be supposed to be possible; but such a degree of impairment as permanently to restrain and diminish the ability to flex and extend the forearm has actually occurred in several of the cases I have seen. On the other hand, if the nature of the injury be clearly made out, and the surgeon be careful and watchful, as well as skilful in applying his dressings, we may with confidence promise a perfect restoration of all the functions of the joint. This, in my mind, is what makes this fracture one of so great a practical interest, viz.: that it is extremely liable to be misunderstood; that, if so misunderstood, it entails permanent damage upon the joint, and, what gives crowning interest to the study, we may by intelligent management entirely neutralize the threatened dangers.

The treatment is directly deducible from what has been said of the nature of the injury. It consists, first, of reduction, and second, of retention. The first indication is usually very easy of accomplishment. It is the second that demands the surgeon's vigilant attention. The constant tendency of the forearm to slip backward is, I have thought, best counteracted by bending the elbow at least to a right angle after the reduction has been completely accomplished, and then binding the limb to a grooved tin splint, which accurately fits the dorsal surface of the arm and forearm down to the wrist. This alone would doubtless be sufficient to steady the fragments in many cases; but when, as is occasionally the case, the tendency to displacement is very great, a slightly concave splint on the anterior surface of the arm, extending from the shoulder nearly to the elbow, acts directly to keep the upper or humeral end from pushing forward, and very much improves the retentive power of the entire apparatus.

Reasoning theoretically, I have thought that the joint line could be most securely preserved by bending the forearm to something less than a right angle with the arm. This idea occurred to me on noticing how the head of the radius mounts on the capitellum in the flexion of the forearm, until in extreme flexion it almost touches the anterior surface of the humerus above the articulation. On glancing at the skeleton it will be seen that the head of the radius, thus rising upon the capitellum, prevents backward displacement more and more perfectly, as it rises, until it reaches an angle, say of 80°, with the humerus, where I have thought its supporting power was greater than at any point of either greater or less flexion. If this be true, then, to secure all the advantages of position, we should aim to keep the elbow bent to about this angle, and this theoretical idea has been confirmed by quite a number of trials I have made in the few cases I have had an opportunity of treating. The important point in the treatment may be stated to be constant, watchful care that the original deformity be not reproduced. This secured, the future of the joint is assured.

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[*] The third diagnostic point needs not to be dwelt upon. The ulnar half of the articular extremity being gone, the remaining radial half makes an anterior prominence, which is smaller and sharper than in the dislocation, and the prominence is situated on the radial side of the joint, a manifest vacuity being felt, where in the dislocation we should have the prominence of the trochlea making its part of the forward protrusion of the humeral extremity.

As in all cases where fracture involves joints, early passive motion should be employed. In the third week, I think, slight movements of the joint, made by the surgeon himself, with all due care to prevent any yielding of the fragment which has not yet been solidly united to the shaft, and repeated every day, will prevent, as far as it is preventable, the stiffness which always follows this accident, and these passive movements should be supplemented in the fourth week by some voluntary exercise carefully increased as it is better and better borne.

In conclusion, I think I may state that, even when much bony deformity has resulted, and as a consequence much restriction of the movements of the joint, something can still be accomplished, if the union be not too solid, by persevering and courageous efforts, both on the part of the surgeon and of the patient, to overcome the resistance by the steady application of force. This, in slight cases, may be accomplished by the surgeon forcing the movements beyond the point of arrest, by steady and firm pressure with his unaided hand. If this be done daily, and particularly if these efforts are cordially seconded by the patient's own voluntary exertions, much can be accomplished. The patients are almost always young; indeed, I have never seen a case over twenty, and as the obstruction arises not from rigidity of muscle or ligament, but from inequality of hinge-surface, in these young bones considerable deformity, in the early weeks after the healing, can be overcome by patient perseverance. In one rather bad case I had Mr. Tiemann make me an instrument by which forced flexion and extension could be made and maintained, and in this instance, although on his recovery from the fracture much impairment of motion existed, I finally succeeded in gaining perfectly every movement of the limb.

The number of cases in which the peculiar conditions noted above prevail, will not be large in any one man's experience; but it seems to me that one elbow-joint, crippled by the nature of its injury being misunderstood, would make any conscientious surgeon feel that want of knowledge of the simple facts I have rehearsed would not exonerate him either *in foro conscientiæ*, or before the tribunals of this wicked world, where a suit might be brought for *malapraxis*.

* * *

Opium Smoking.—A Prize of $250 has been offered by an English gentleman, interested in the matter, for the best essay on the medical means of counteracting the effects of opium-smoking in China. This essay should contain suggestions as to the best method of conducting an opium refuge (or hospital) in that country. Dr. Risdon Bennett, Dr. Sieveking and Sir Joseph Fayrer will act as adjudicators. If thought advisable, a second prize of $125 will be given.

A CASE OF EPITHELIOMA OF THE RECTUM,

In which the Operation of Proctectomy was Performed.

Reported by ALFRED C. POST, M.D., LL.D.,

NEW YORK.

Joseph Mowett, æt. 53; Scotland; widower; machinist. Admitted into Presbyterian Hospital, April 1, 1880. Family history good. Enjoyed good health until last summer, when he had an attack of yellow fever. Eight weeks before admission he began to lose flesh and strength. Three weeks later he began to have frequent fluid passages from his bowels, with severe bearing-down pain, which continued to the date of his admission, with slight intermissions. The loose evacuations contained mucus and blood. At the time of his admission he had seven to ten passages in twenty-four hours. Examination with a finger revealed an irregular, indurated, cock's-comb shaped tumor an inch above the anus, at the junction of the left and posterior wall of the rectum, about two inches in length, and involving two-thirds of the circumference of the bowel. Chalk mixture with camphorated tincture of opium was ordered to relieve the diarrhœa.

April 5th.—Passages more nearly normal in appearance, less frequent, and less painful.

April 10th.—Continued improvement; three to five passages in twenty-four hours, very little pain, no mucus, but occasionally a little blood. A consultation of the surgeons was held, and the operation of proctectomy was advised.

April 12th.—The patient was etherized, and the operation performed in the following manner: Two semi-elliptical incisions were made, one on each side of the anus, an inch from its margin, meeting in the perineum in front, and near the coccyx behind. These incisions were carried down to the muscular coat of the rectum above the sphincter, the rectum being drawn down by a vulsellum. The fibres of the levator ani were divided, and the incision was extended upward, until a line was reached corresponding with the upper extremity of the neoplasm, as felt by the introduction of a finger within the gut. The morbid growth occupied the left side of the rectum, from near the median line posteriorly to the junction of the left with the anterior wall of the intestine. An incision was made through the rectum, a third of an inch on the right side of the median line posteriorly, and another through the anterior wall of the bowel near the median line, leaving between the two incisions a strip of healthy tissue, including about two-fifths of the circumference of the gut. The left side, including the diseased growth, was then drawn down and divided transversely above the diseased portion, little by little, each bleeding vessel being tied in the progress of the operation, until the whole mass was removed. The portion of the sphincter connected with the sound flap on the right side being regarded as superfluous and interfering with drainage, was removed, and the remainder of the flap secured by suture to the skin. Toward the close of the operation the circulation became quite feeble, and the pulse at the wrist imperceptible. Two hypodermic injections were administered, each containing thirty minims of whiskey.

6 p. m.—The patient has recovered from the effects of the ether, but he has a haggard look and a feeble

pulse. Half an ounce of whiskey was given to him, and the dose was repeated after an hour.

10 P. M.—Circulation much improved. Patient does not complain of any pain.

April 13th, 2 A. M.—No urine has been passed since the operation. A catheter was introduced, and seven ounces were drawn off. As there was some oozing of blood from the wound, a mixture was prepared, containing forty minims of liquor ferri subsulphat with an ounce of water, and the patient was directed to take a drachm every three hours. In the middle of the day, as the quantity of urine drawn off by the catheter was scanty, infusion of digitalis was ordered, half an ounce three times a day. In the afternoon he had a movement of the bowels without pain. The stool was clay-colored and cylindrical. The wound was dressed with lint, moistened with carbolic oil, 1 to 10. The patient was directed to confine himself to a liquid diet.

April 15th.—Patient continues to do well. He takes his food regularly. He has two or three semi-solid stools in 24 hours. The wound is repacked with lint, moistened with carbolic oil after each stool.

April 17th.—Urine is regularly drawn off with a catheter. The secretion is more free, and the infus. digitalis was directed to-day to be discontinued. The wound is granulating, and is in a healthy condition.

April 20th.—In passing the catheter, some difficulty is experienced, there being an apparent obstruction in the membranous portion of the urethra. A steel sound of 30 mm. was passed into the bladder, stretching, and probably divulsing the urethra.

April 21st.—Since the passage of the sound, the patient urinates without a catheter. He has occasional cramps in his bowels, which are always relieved by sulph. morphia, gr. $\frac{1}{5}$.

May 15th.—There has been steady improvement in the condition of the patient. The right side of the rectum, which was attached by sutures to the integument, united with the skin by the first intention. The left side, which was widely separated from the skin, has come down within half an inch from it, and the intervening space is filled with healthy granulations. There have been occasional attacks of diarrhœa, always relieved by bismuth, in five-grain doses, combined with sulph. morphia, gr. $\frac{1}{6}$. The patient's mind is a little confused. He has a singular hallucination, that the members of the house staff have conspired to chloroform him and cut him up. This hallucination probably originated in the fact that there was a case of secondary hemorrhage in the same ward, in which the house-surgeon was obliged to reopen a wound to secure some bleeding vessels.

June 3d.—The patient has for some time past been able to put on his clothes, and to walk about the ward and the corridors. He continues to be troubled with his old hallucination, and to-day he absconded from the hospital.

In reviewing this case, its most remarkable feature seems to be the very moderate amount of local distress, or of constitutional disturbance, following so grave an operation.

On the 13th of April, the day after the operation, the highest rate of the pulse was 96, and the highest temperature 100°. On the 14th, pulse 98; temperature 101°. On the 15th, pulse 100; temperature, 101°. On the 16th, pulse 96; temperature, 101.2°. On the 17th, pulse 96; temperature, 101°. On the 18th, pulse 92; temperature, 100.7°. On the 19th, pulse 92; temperature, 100.6°. On the evening of the 20th, the temperature descended to 98.5°, and from that time pulse and temperature were normal. The local symptoms, from the day after the operation, were equally mild. There was scarcely any complaint of pain, and the healing process went on without interruption. The progress of the case in all respects, except the mental condition of the patient, was entirely satisfactory.

It is a matter of regret that the patient could not be induced to remain longer in the hospital, and that the opportunity of watching the result of the operation for a more extended period was lost. The patient was under observation for a little more than seven weeks after the operation, and during this time the very extensive wound had nearly healed, and there was reason to hope that he might enjoy a long reprieve, if not a full immunity from a return of the disease.

Reports of Hospitals.

BELLEVUE HOSPITAL.

Notes of Practice and Peculiarities in Treatment.

LARYNGEAL SPASM—GENERAL CONVULSIONS—RACHITIS—SUDDEN AND THREATENING ASPHYXIA—CATHETERIZATION OF THE LARYNX—RECOVERY.

THE following case was interesting with reference to several points. A baby, a few weeks old, had the appearance of being in a healthy, well-nourished condition. It, however, had persistent general convulsions and attacks of laryngeal spasm. On making a careful examination the evidence of rachitis was found in the beaded condition of the ribs and soft spots in the cranial bones. It was believed that the general convulsions and the spasms of the larynx depended upon the general conditions included in the term rachitis. On examining the pharynx a laryngeal spasm was promptly produced, and the baby suddenly became asphyxiated to an alarming extent. Respiration ceased at once, and the face was livid. Artificial respiration was resorted to at once, but neither Schutze's nor Marshall Hall's, nor Sylvester's method did the least toward restoring the child. The tissues of the larynx were completely relaxed; but there was not sufficient life in the child to enable it to breathe. The heart continued to beat. A male silver catheter was quickly introduced through the larynx, and respiration was immediately restored. The general convulsions were subsequently controlled by the use of chloroform. At the end of a week the laryngeal spasm had not returned, nor had the general convulsions; and the child seemed to be better for having passed through the dangerous ordeal. The practical point was the catheterization of the larynx in preference to tracheotomy in a case demanding extremely prompt action, in order to prevent death from sudden asphyxia.

PHLEGMASIA ALBA DOLENS.

The following cases exhibited features worthy of note: A woman, æt. 42, was confined Feb. 3d. The labor was tedious, the breech presented, and the child was not saved. She then had a fever that lasted for some time, accompanied by sweating and exhaustion, and finally she was brought to the hospital.

Seven weeks after parturition, *an exceptionally late period*, phlegmasia alba dolens developed. The treatment adopted was leeching and poultices for the pain and tenderness, and it was believed that probably they had some effect in shortening the duration of the active stage. The limb was kept at rest. After the acute symptoms had subsided, agents to promote absorption were indicated, and that upon which chief reliance was placed was the flannel roller bandage for the toes, upward to the upper portion of the thigh. The patient should be encouraged to move about some, as motion stimulates the circulation and thus favors absorption. So long as any hardness remains in the course of the veins *friction should be avoided;* for, in a sufficient number of cases to give warning, a portion of the thrombus has been detached, and, entering the circulation, has done irreparable damage. A second case of phlegmasia alba dolens was seen, which was exceptional in that it was double, and was interesting in comparison with the other case in that it began on the eighth day after a tedious labor.

SECONDARY HÆMORRHAGE AFTER TEDIOUS LABOR.

A woman was confined on March 28th. Labor was tedious, but uncomplicated. Five days after parturition, and while making a good recovery apparently, she was moved from the Maternity Hospital because of the appearance of puerperal fever in the wards. At twelve o'clock on the night following the day on which she was removed, she began to bleed from the vagina; the discharge continued until six o'clock in the morning, and, although profuse, did not cause any serious constitutional disturbance. On searching for the cause of the hemorrhage, it was learned that the placenta was said to have been partially adherent, and the suspicion arose that a portion of it still remained, although it was supposed, at the time of labor, that it was completely removed. The suspicion was confirmed by passing the curette carefully over the internal surface of the uterus, and removing one or two small pieces of placenta that had been retained. The operation was followed by ergot and the hemorrhage was at once arrested, and had not returned. There was no laceration to account for the hemorrhage. Objection was made to the use of the tampon in such cases, even five days after labor.

PNEUMONIA—VALVULAR DISEASE OF THE HEART—SUDDEN DEATH.

The following is a complete history of a case that terminated fatally 14 hours after admission to the hospital: A middle-aged man was taken sick five days previously. Vomiting was the first symptom, and the material vomited had a yellowish color. In the afternoon of the same day he began to throw up blood with coughing, and he thought that he raised about a pint, which was of a bright red color. Afterward, the vomiting returned, independent of the cough, and he threw up dark colored blood. He did *not* have a chill. He had, besides the vomiting and raising of blood, pain in the left side below the ribs, pain at the pit of the stomach, and over the latter region there was a good deal of tenderness on pressure. When admitted to the hospital, his cough was harassing and was attended by expectoration, viscid and colored, but prune-juice rather than brick-dust. He coughed and vomited and raised blood more or less during three days, including that on which the attack began. He had had articular rheumatism. He had been in the habit of going on sprees, but had not drank alcoholics steadily and regularly. His arm was amputated at the shoulder in 1873. His family history was unimportant.

Physical examination.—Cheeks flushed, and of a dusky color. Abdominal respiration: Pulse, 110, regular, and of fair strength; temperature, 102⅓° F., in the mouth; respiration, 40, and somewhat panting. Tongue moist; countenance not notably anxious. The apex of the heart was beating in its normal position; no evidence of cardiac hypertrophy; no sinking under the clavicles upon taking a full inspiration.

On *percussion* in the infraclavicular region, resonance was found to be more marked upon the left than upon the right side. On *auscultation*, vesicular respiration was heard on both sides. A murmur was heard with the first sound of the heart, having its greatest intensity at the junction of the second rib with the sternum on the right side, and was not conveyed toward the apex.

Posteriorly, vocal fremitus was more marked upon the left than upon the right side in the infrascapular region. On *percussion*, there was dulness, almost flatness over two-thirds of the left side of the chest, and a great deal of tenderness. On *auscultation*, expiration was more marked than inspiration over the left lung, tubular breathing from the top to the bottom of the pleural cavity, at the end of the inspiratory act a distinct friction sound was obtained, but no râles in any locality. Over the right lung was exaggerated respiration. The diagnosis was pneumonia, and the points specially interesting were, first the vomiting, which seemed to take the place of a chill at the onset of the disease, and second the hemorrhage, which, when it ushers in an attack, indicates that a large amount of lung will be involved, usually the whole lung, and also that the patient's general condition is bad at the time of the occurrence. Such cases do not resolve well, it was remarked; and gangrene of the lung is very liable to occur under such circumstances. The cardiac complication was unfavorable, but an aortic was regarded as more favorable than a mitral lesion under such circumstances. From an examination of the patient's toes and fingers it was evident that he had a gouty diathesis, but if, so far as the urine could indicate, the kidneys were in good condition, the prognosis was tolerably fair. The urine had not been examined, as the patient had just been admitted. The treatment was chiefly to allay the harassing cough which was wearing out the strength of the patient, and, accordingly, a hypodermic of Magendie's solution of morphia, ♏viij., was given. The patient was to be kept well covered in bed and put upon a nourishing diet, consisting of all the milk he could drink, all the cold water he wished. In the evening of the same day he was feeling quite comfortable, and had rested some under the influence of the morphine. At about 3 o'clock on the following morning he died.

At autopsy, made twelve hours after death, consolidation of nearly the whole of the left lung was found, together with a moderate amount of pleuritic exudations. Red hepatization just began to pass into gray, as shown by microscopical examination. Right lung normal. Heart-thickening and retraction of the aortic valves and stenosis, so that the orifice barely admitted two fingers. Moderate hypertrophy of the left ventricle. Mitral valve thickened and orifice narrowed so as to admit scarcely more than one finger. The tricuspid valve was also thickened, and the orifice would not admit three fingers. There were no vegetations, and the muscular tissue presented a healthy appearance.

ANEURISM OF THE AORTA AND THE INNOMINATE—OPERATION SUGGESTED.

A middle-aged woman had been sick seven months; has had a fluttering about the heart, and pain in the precordial region, especially after excitement of any kind. She had also occasionally had a peculiar sensation of weakness come over her, referable to the cardiac region, and so marked as to oblige her to sit down at once when it appeared, and those spells were as apt to come on without as with physical exertion and excitement. Two days previously she noticed, for the first time, that her voice was changed, and also discovered a lump in her neck. On physical examination, a marked pulsation in the neck was noticed over the entire region between the scaleni muscles and above the sternum. On palpation, a distinct tumor was felt that had a dilating impulse, and extended about an inch above the sternum on a line with the junction of the clavicle with the sternum. When the fingers were passed behind the sterno-clavicular articulation, the pulsation could be felt very distinctly. On percussion, dulness was found to extend downward into the chest cavity below the sternum about three inches, upward into the neck and over toward the right side of the trachea. The right radial pulse was feebler than the left. On auscultation, a double murmur was heard over the heart, and it increased in intensity until the base of the organ was reached, when it was heard with its maximum intensity, although nearly as loud above the sternum. There was some cardiac hypertrophy. The diagnosis of aneurism of the innominate artery and of the aorta was made, and ligation of the carotid and subclavian arteries suggested.

HYDROCELE OF THE SCROTUM.

A patient, a man somewhat advanced in years, was seen, who had had his hydrocele treated with an injection of absolute alcohol. Dr. Gouley removed fourteen ounces of fluid with the aspirator. The same quantity was removed at his second visit, and then three drachms of absolute alcohol were thrown in before the needle was withdrawn. The result was a cure, as shown by an examination made nearly two months after the operation.

The multiple puncture was practised on a congenital hydrocele, and the case was progressing favorably.

EXTERNAL URETHROTOMY—RECONTRACTION—CONTINUOUS DILATATION.

The case was interesting in the following particulars: External urethrotomy had been performed successfully *eight* years previously. Recontraction had occurred to such an extent that he came for treatment within the last month. Continuous dilatation, instead of cutting, was practised, and the stricture had been dilated from two to fourteen inches in three weeks.

ACUTE BRIGHT'S DISEASE.

The following cases were noted, because of certain peculiarities which they presented:

Case I.—Mr. ——, æt. 46; a printer; native of United States; was admitted to the hospital on the 8th. Family history unimportant. He had been accustomed to drinking strong drinks moderately. His health was good up to *three* years ago, when he had chills and fever, and, at that time, was told that he had kidney disease. He recovered, and no symptoms of renal disease manifested themselves until about four weeks previous to his admission. The question arose, did he fully recover, or did he have a latent kidney affection during all the time he believed himself to be in perfect health? Probably the latter. One month before admission he began to suffer from pain in his back, and his feet and legs began to swell; his abdomen was slightly enlarged, he had headache, and passed a smaller quantity of urine than usual. On admission, he had some œdema of the lower extremities, the quantity of urine discharged was less than normal, somewhat smoky, had a specific gravity of 1010, and contained albumen and small hyaline casts. Two weeks after admission, the date in which this note was made, his urine was still somewhat smoky. The indication was to increase the quantity of urine discharged without irritating the kidneys. The acute symptoms had passed away. He was put on the free use of milk, and half an ounce of the infusion of digitalis with twelve grains of acetate of potash were given every three hours. On the day following his admission, he passed ℥ xvi.; on the second day, ℥ xxxiv., and the œdema had almost entirely disappeared. On the 23d the urine had an acid reaction, specific gravity 1012, and contained albumen; but the œdema had disappeared, the patient's appetite was good, and his general condition was so fair that he regarded himself as about as well as ever.

Case II.—A man, æt. 73, native of Ireland, and a laborer, was admitted to the hospital on the 20th. His family history was unimportant. He had used liquor and beer moderately. He had enjoyed good health up to *nine* years ago. At that time his feet and legs were swollen, his abdomen increased in size, he had shortness of breath, passed a small quantity of urine during his sickness, which lasted a month, but he was not confined to his bed during the whole period. He made an apparently complete recovery. From the history, it was concluded that the man had acute desquamative nephritis *nine* years ago. If so, it was exceptional; because at that age he had no right by rule to have the affection. About three weeks before admission he began to pass bloody urine, and his feet and legs began to enlarge. In this case there was suspicion that nine years ago the patient was left with the chronic form of the disease. When admitted, his lower limbs were œdmatous, also his scrotum and penis, there was slight œdema of the face, and a small quantity of urine in the abdominal cavity. He had some dyspnœa and cough. His bowels were loose and his appetite was good. His urine was smoky, had a specific gravity of 1014, and contained albumen and small hyaline casts.

The treatment was conducted upon the same principle as in the first case, but different remedies were used.

℞. Potass bicarb............... grs. xxx.
Infus scoparii............... ℥ ss.
S. To be given every three hours.

On the second day after admission the œdema was less, cough less, and his general condition was notably improved. On the following day his urine was yet slightly smoky, had a specific gravity of 1011, was alkaline, and contained albumen. His general condition was improving, and the treatment was continued. Milk was an important factor in his diet.

In Case III. phenomena similar to those given were observed, and the patient was taking acetate of potash, with marked benefit. The urine had increased in quantity, and the patient's general condition had improved.

In Case IV. the indication for treatment was substantially as in the foregoing cases, and the infusion of triticium repens (dog-grass) with bicarbonate of potash was used with very satisfactory results.

RECTAL ALIMENTATION.

In a case of severe and persistent vomiting, with pain, dependent on subacute gastritis, the patient, a male, æt. 34, was received. Day and night nutritive enemata were administered every three hours, composed of the following articles:

Milk, ℥ ij.; half an egg; whiskey, ℥ ij., and McMunn's Elixir of Opium, gtt. x. The vomiting and pain were at once relieved. Two days previous to taking this note defibrinated blood was substituted for the above mixture, and ℥ iij., every three hours, were employed with satisfactory results.

ARTICULAR RHEUMATISM, VALVULAR LESION OF THE HEART—EXCEPTION WITH REFERENCE TO BOTH.

A male patient, æt. 47 years, and a laborer, was admitted on the 13th. Family history unimportant. He had been accustomed to the use of both liquor and beer, yet said he never drank to excess. He had always had good health until two years ago, when he had his *first* attack of articular rheumatism. The case was exceptional in that the first attack of rheumatism occurred when the patient was forty-five years old. If rheumatic, it was believed to be subacute. He recovered and went on with his work as usual. Three months before admission he had cough with frothy expectoration, and soreness under the lower end of the sternum. One month later he began to suffer from shortness of breath. He had not at any time noticed any diminution in the daily quantity of urine discharged. On admission he complained of dyspnœa, cough, and soreness in the region of the xyphoid cartilage. Physical examination revealed a murmur with both sounds of the heart, and heard with greatest intensity over the aortic valves. The area of cardiac dulness was increased. The urine was acid, had a specific gravity 1020, and did not contain albumen.

The question arose whether or not the cardiac lesions found depended upon endocarditis occurring two years ago. If so, it was exceptional—for cardiac lesions, sufficient to develop marked physical signs, originating in as recent an attack of endocarditis, were regarded as rare.

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PROMOTIONS AND APPOINTMENTS IN THE UNITED STATES MARINE HOSPITAL SERVICE.—At the regular examinations held by the Marine Hospital Service, in New York, June 21st to 25th, the following promotions and admissions were made:

Assistant Surgeon John Godfrey, to be Passed Assistant Surgeon; Assistant Surgeon F. H. Brown, to be Passed Assistant Surgeon.

Dr. John Guiteras, of Philadelphia; Dr. Wm. A. Wheeler, of Evansville, Ind.; Dr. J. A. Benson, of Hoboken, N. J., and Dr. C. E. Banks, of Portland, Me., passed the examinations, and were admitted to the service as Assistant Surgeons.

Dr. Benson has been ordered to report at Baltimore, for temporary duty. Dr. Wheeler is ordered to New York City; Dr. Banks to San Francisco, and Dr. Guiteras to St. Louis.

Progress of Medical Science.

ABDOMINAL SECTION FOR PURPOSES OF DIAGNOSIS.—Dr. J. H. Stallard (*San Francisco Western Lancet*, May, 1880) relates a case of rapidly growing tumor in a man 41 years old, where an exploratory laparotomy was performed. Antiseptic rules were scrupulously observed. An incision five inches long was made in the linea alba, terminating an inch below the umbilicus. The stomach, slightly distended with flatus, appeared at the upper part of the opening, and the omentum below. The latter was of a deep port-wine color. There were no adhesions. The hand readily passed between the tumor and the stomach and liver above, and the intestines and omentum below. The growth was attached deeply to the root of the mesentery in front of the great vessels. There was no distinct pedicle. The tumor was firm to the touch and smooth upon the surface. A thorough examination was made by the assisting physicians, and it was unanimously decided that an attempt at removal would prove immediately fatal. The wound was therefore carefully sponged, and closed with silver sutures. The dressing was that of Lister. The patient recovered without a bad symptom. At no time did the temperature exceed 100° F., and on the third day it was normal. The wound was found dry and well united on the fifth day. On the ninth the ligatures were removed. On the fourteenth day he sat up and took his usual food. He was now quite as well as before the operation.

Dr. Stallard adds that, although unsuccessful as a curative proceeding, the above case at least suggests the adoption of abdominal section as a means of diagnosis in a number of cases, where the nature of the internal disease cannot be determined by ordinary means. Under spray and with proper antiseptic precautions, there would seem to be little or no danger in making exploration for internal herniæ, intussusceptions, impacted gall-stones, fibro-cystic and other growths. We may incidentally mention the fact that Dr. Stallard's idea is not a new one. Similar exploratory incisions have for some time past been in vogue, especially in Germany, where the number of such operations is already quite large. In our country, however, cases of this kind have not hitherto been frequently reported. Perhaps they were not successful. At any rate the surgeon is justified in undertaking this operation in certain exceptional cases, and when we have gained more experience in this matter, the death-rate may be appreciably diminished.

PUSTULAR RASH FROM SHEEP-WASHING.—M. Steel (*Brit. Med. Jour.*, May 8, 1880) relates the following case. In May, 1879, a gentleman, fair, tall, robust, a very distinguished athlete, presented himself to Mr. Steel, with the front and inner side of his left arm from the shoulder to the wrist, and the left side of the chest and upper part of the abdomen, covered with a pustular rash, the character and localization of which puzzled him considerably. It was at length elicited that, about a fortnight before, he had assisted as an amateur in a day's sheep-washing. In the course of this operation the sheep is grasped by the left hand and supported on its back against the left side of the washer, standing nearly to the middle in water, while the right hand is engaged in rubbing away the clay and dung with which the wool of the belly is often clotted. It was also ascertained that the sheep had recently been dipped in a sheep-dipping composition, probably containing mercuric bichloride or arsenic, for the destruction of tick and other parasites. The cause of the eruption was now clear, though the patient had no suspicion of its origin. He wore a thin flannel shirt and duck trowsers. The shirt became saturated with water from the wet sheep, but was not otherwise immersed. The right hand, being constantly washed with fresh water, escaped. His fellow-laborers, wearing their usual thick clothing, also remained unaffected.

Acute Miliary Tuberculosis in the Adult.—Four cases of this kind were recently observed at the King's College Hospital, and the following remarks conclude the account given of them in the *Brit. Med. Jour.*, May 8, 1880. These cases are of considerable interest as illustrations of the difficulty which surrounds the diagnosis of acute tuberculosis in the adult from other febrile affections, more especially from typhoid fever. Thus the more or less obscure history, the absence or equivocal character of the pulmonary physical signs, the presence of abdominal symptoms or diarrhœa, the absence of marked dyspnœa (in one case at least), united in greater or less degree and in varying combination to render exact diagnosis exceedingly difficult. Although differing individually in the precise grouping of their symptoms, all the cases presented one common salient feature: their pulse-temperature ratio was markedly disturbed. For example, in one case, with a temperature which never exceeded 102° F., the pulse varied from 110 to 136 per minute. Again, in another case, while the temperature varied from 101.4° to 102 , the pulse ranged from 130 to 156 per minute. A similar condition was observed in the other two cases; and it was noticeable that although, in one of these, the temperature took a somewhat higher range (104° to 105°), the pulse also varied disproportionately, varying from 130 to 150 per minute. Wunderlich had especially insisted on this point in the diagnosis of acute tuberculosis; and it seems evident, from the cases described, that it might prove of great value in the recognition of the more obscure cases of this disease.

Fatal Herniotomy.—Two cases of herniotomy, fatal in consequence of hemorrhage from abnormally distributed obturator arteries, are reported to have been observed at the Sussex County Hospital (*Brit. Med. Journ.*, May 8, 1880). Case I. was that of a woman aged 62, who had a swelling in the left groin for four months. When first seen she was in a collapsed condition, with dry, brown tongue, and frequent stercoraceous vomiting; pulse 100, feeble. Her expression was anxious; she complained of pain at the umbilicus; there was a small hard swelling at the left femoral ring, without impulse on coughing. A few hours after admission, herniotomy was performed. A small knuckle of intestine was found very tightly constricted at Gimbernat's ligament; the ligament was incised, but, before the bowel could be reduced, a second stricture, formed by the sac itself, had to be divided. When Gimbernat's ligament was divided, free bleeding occurred, but this was apparently controlled without difficulty. The day after the operation, some hemorrhage was detected from the wound, and, as it could not be controlled, the wound was again opened and the bleeding point searched for, but without success. The patient gradually sank, and died on the third day after the operation. At the necropsy the neighborhood of the wound of incision was found infiltrated with blood, which extended beneath the peritoneum, as high as the umbilicus. The hemorrhage was found to proceed from the complete division of the obturator artery, which arose from the external iliac in common with the epigastric, and crossed over the femoral sheath and along the inner margin of the crural ring.

Case II. was that of a woman aged 64, who had had a rupture five or six years, but had always been able to return it herself. She had never worn a truss. On admission, four days after her inability to return it, there was a hard swelling, about the size of a walnut, in the position of the femoral ring, without impulse, and irreducible. Soon after admission, she vomited a material exactly resembling thick liquid fæces in appearance and smell. Herniotomy was performed under anæsthetic mixture. A small knuckle of bowel and a piece of omentum, which were found in the sac in a somewhat congested condition, were returned without difficulty, only a very slight nick in Gimbernat's ligament being needed to relieve the stricture. No hemorrhage occurred at the time of operation. She was apparently much relieved by the operation, and passed a good night, but the following evening she began to complain of a frequent desire to micturate, and of some tenderness of the abdomen, and on the day but one after the operation she showed signs of severe collapse, and vomiting recommenced. The collapse increased, and she died early the following morning. There was no hemorrhage from the wound after the operation. At the necropsy, eight hours after death, the wound was found healthy in appearance externally, without any ecchymosis of the surrounding skin, but on opening it out some clotted blood appeared, and on tracing this back, a large mass of clot was found in the subperitoneal tissues surrounding the wound, and in the neighboring parts of the pelvis. It was found that the obturator artery, which arose from the external iliac in common with the epigastric and passed over the crural ring on its course to the pelvis, had been partially divided, probably at the time when Gimbernat's ligament was nicked. The obturator artery on the opposite side did not arise from the external iliac, and was probably normal in origin. The reporter added that the interest of the two cases centered, of course, in the abnormal distribution of the obturator artery, in each case the cause of death being its accidental division, which was in the one case partial, in the other complete.

Sterility in Women.—Dr. Harry L. Sims read an interesting paper on the above, at a recent meeting of the San Francisco Obstetrical Society (*Western Lancet*, May, 1880). McIntosh was said to have been the first to begin proper treatment by dilating the cervical canal with bougies. Then came Sir James Y. Simpson, who followed the same idea, by incising the cervix to make the canal permanently open. But these procedures did not often lead to the cure of sterility. The sterile condition, according to Sims, may be caused by one of many things, such as polypus, fibroid tumor, some malposition, a painful dysmenorrhœa, a contracted cervical canal, a flexed cervix, abnormal utero-cervical secretion destroying the vitality of the spermatozoa, etc.

Three questions must be determined at the outset, in order to secure scientific treatment: 1. Does the semen contain spermatozoa? 2. Do they obtain access to the utero-cervical canal? 3. Are there any secretions in the canal which will poison the spermatozoa? If no spermatozoa are found in the semen, the uterine condition needs no treatment. If spermatozoa do exist in the semen, but do not enter the cervical canal, then arises the question of the propriety of an operation. If, however, the spermatozoa do enter the canal, then, as a rule, no surgical interference will be necessary. Dr. Sims is in the habit of examining microscopically small quantities of the secretions found in different parts of the genital tract. For this purpose he employs a small rubber syringe, with a long glass nozzle, the point of which is in the shape of an inverted cone.

Sometimes repeated examinations become necessary. The normal secretion of the cervix, he says, should be as clear and translucent as the white of an uncooked egg; when this secretion is full of little snow-white specks, it is always inimical to the viability of the spermatozoa. While treating the patient, he always examines the cervical mucus every few days. At the beginning the spermatozoa are all found to be dead. Some time afterward, some will be alive and the rest dead; then, later on, nearly all will be alive; and when, finally, the spermatozoa are all found alive, the case may be pronounced cured. A great deal of patience, however, will be necessary before such a result is obtained.

Dr. Sims emphasizes one indisputable fact, and that is that the spermatozoa must reach the uterine cavity in order to produce pregnancy, and they must there find a secretion which will not be inimical to their viability. His method of incising the cervix, which is essentially that of his father, Dr. J. Marion Sims, is described, and several cases related. The paper closes with the statement that Dr. Sims has operated, during the past seventeen months, on nineteen cases of uterine flexions, for sterility. Of these cases, thirteen have already resulted in pregnancy.

TAPPING PULMONARY CAVITIES.—Dr. Thompson, of London, in a paper on this subject (*Virginia Med. Monthly*, June, 1880), makes the following remarks: Pulmonary cavities may be broadly classed into two groups: 1, those which are found in the upper lobe of the lung, and which may be denominated *phthisical;* and 2, those which are formed in the base of the lung, and which are generally *pneumonic.* The first group—apicial or phthisical cavities—occupy preferably the upper lobe, secrete (?) matter of a peculiar nature, non-fetid, septic, but seldom distinctly purulent, although under the microscope degenerated pus-cells may be found. The peculiar characteristic nature of the matter is shown by its property of producing tubercular infection, when locally applied to pulmonary tissue. The second group—basic or pneumonic cavities—occupy only the lower parts of the lung, secrete a purulent, often a gangrenous matter, of overpowering fetor, which, when transferred to other parts of the lungs, results, not in tubercle, but in pus. The first kind of cavity is invariably associated with firm and complete adhesions of the pleural surfaces in the neighborhood of the cavity. With the second form of cavity the adhesions are by no means so complete; bands of fibres may only tie down the opposite pleural surfaces, or the cavity may be associated with an empyema and absence of adhesion—a condition by no means rare. An illustrative case is then cited, and after some further considerations the following conclusions are presented: 1. Except for the introduction of local remedies, the puncture of an apex cavity can hardly be expected to lead to any good result. 2. The puncture of a basic cavity is demanded if the secretion be fetid, provided there are reasonable grounds for supposing that the pleural surfaces in the neighborhood of the cavity are sufficiently adherent to prevent artificial pneumo-thorax. 3. The advantages to be gained by the operation are the ventilation of the cavity and the diminution of fetor, and especially the prevention of matter passing over to, and infecting the sound lung.

STATISTICS OF 250 CASES OF CANCER OF THE BREAST.—Dr. Oldekop publishes an extended report of 250 cases of carcinoma of the mamma, which were treated in Prof. Esmarch's wards in Kiel between the years 1850 and 1878. Of these cases, 21 were not operated on. Of the remaining 229, 23 died in consequence of the operation; in 109 the tumors returned; in 43 the tumors did not recur, some of these patients being still alive, while others have died of intercurrent diseases; in 54 the patients were lost sight of after they left the hospital. The majority of the patients were between 46 and 50 years of age; the average age at which the disease first made its appearance was 48.4 years. Of the patients, 208 were married, and 30 single. Of 103 who had borne children, 36 had suffered from puerperal mastitis. In 9 cases the tumor developed from nodules left by previous mastitis. The statements with regard to previous injury were uncertain. The cancer affected the right breast in 123 cases, and the left in 102. The upper and outer half of the gland was most frequently affected. In 11 cases hereditary predisposition existed, and in 60 cases it could be positively excluded. In 31 cases in which the axillary glands were not involved, the average duration of life after the operation was 45.1 months; period of freedom from relapse, 6 months. In 57 cases in which the glands were involved, the average duration of life after the operation was 34.8 months; period of freedom from relapse, 2.5 months. The average duration of life from the first appearance of the disease was, in the cases not operated on, 22.6 months, and in the cases operated on, 38.1 months. On 225 patients, 287 operations were performed, with 23 deaths. Out of 184 operations performed before the introduction of Lister's method, there were 16 deaths, a mortality of 8.7 per cent.; out of 77 performed under antiseptic precautions, there were 7 deaths, a mortality of 9.1 per cent. The average period of convalescence was formerly 5.2 weeks, but after the adoption of Lister's methed it fell to 4.6 weeks. In 40.9 % of the patients the entire mamma with the glands was removed (mortality, 13 %). Of the 23 deaths from the operation, 12 were due to accidental surgical diseases, 4 to collapse and secondary hemorrhage, 1 to pneumonia, and 6 to causes that could not be clearly ascertained. Erysipelas occurred 15 times, and proved fatal in 5 cases. In 46.4 % of the cases the recurrent tumors appeared within the first three months after the operation; after that period the recurrences diminished steadily in frequency, and after one year they only occurred in 18 cases, or 16 %. A reappearance of the tumor after three years' interval was only observed in one case, and in that there was some room for doubt. Hence three years may be regarded as the limit for the appearance of recurrent tumors. If this be accepted as correct, 23 of Esmarch's cases may be regarded as definitely cured. The seat of recurrence was far more frequently the cicatrix than the axilla; and when the operation was limited to the removal of axillary glands, the recurrent tumors generally appeared in the axilla. Dr. Oldekop concludes his paper with brief synopses of the histories of the 250 cases.—*Langenbeck's Archiv.*, vol. 24.

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PHYSICIAN AND DRUGGIST.

The relations which should exist between physician and pharmacist will always interest both parties in the discussion. More especially will this be the case so long as there appears to be such a wide divergence of opinion as to mutual rights. It would seem, considering the amount of ventilation which the subject has received, that there would be some line of demarcation agreed upon that would separate the two professions; that would mark the limits of the functions of each, and would show where one commenced and where the other ended. But we seem as far as ever from a settlement of respective claims. The reason for this probably is that there is not much disposition on either side for that spirit of compromise which would allow of a calm and unprejudiced adjustment of differences. It is quite necessary that we should come to this point as speedily as possible, inasmuch as there is developing on both sides a belligerent attitude which is ominous of much trouble in the future.

With a view of fostering a better understanding of the question, and of reconciling apparently contending interests, we propose to throw out a few suggestions in that spirit of impartiality which must invite a calm consideration of the points at issue. We must start with the assumption that the physician and pharmacist have so many interests in common that they cannot afford to quarrel. They are naturally helpers of one another, and require mutual support. The real question should be how the latter end can be best accomplished. All discussion should bend in that direction.

In order to understand the true position of affairs it is necessary, in the first place, to look at the difficulties which appear to be in the way, and, secondly, to find the means of overcoming such obstacles.

In olden times physician and apothecary were combined, and the doctor's saddle-bags were as indispensable to his outfit as was the horse he strode, or the lancet he wielded. He was dispenser as well as prescriber, and was happy in being the factotum in the sick-room. Except for the veritable grandma, who so constantly beset his pathway with her favorite teas, there was no one to interfere with his just prerogative, none to question the means used for the cure of the patient. The progress of the healing art, and the necessities of the situation which grew out of it, gradually separated the functions of prescriber and compounder until they became respectively associated with two distinct professions. The cultivation of each of these professions has progressed to such a degree that they are becoming more and more widely separated, the practitioner in each requiring a special and independent training. If the representative of each is contented to attend to his duties, there would be no possible trouble, no question whatever regarding individual rights. But that the contrary is the case no one can deny, and hence the discussions which have ensued regarding mutual relations.

Without any danger of being charged with partiality toward the physician, we feel warranted in saying that in regard to individual rights he is more sinned against than sinning. Although he cannot be entirely exonerated from all blame, he is, as regards opposition to the claims of the pharmacist, more on the side of the defensive than on that of the offensive.

In discussing the difficulties in the way of a proper understanding of mutual dependency we may commence with those more directly chargeable to the druggists themselves. First and foremost of such is the practice of counter-prescribing, now becoming so common among a large class of these gentlemen. This is so clearly trenching upon the legitimate province of the physician that no argument is needed to prove it. We are aware that it is stated, on apparently unquestioned authority, that counter-prescribing is not a prevalent practice; but we know to the contrary. In fact, every physician can point to two or three so-called respectable pharmacists in his neighborhood, who not only deliberately prescribe over the counter, but encourage the practice with their subordinates. It is impossible to estimate the abuse to which such methods of prescribing are liable, the injury they inflict upon the patient and the damage which they cause the physician. In fact counter-prescribing is such an important element of antagonism against the physician, that it can safely divide the honors with the indiscriminate prescribing at the clinics. There are druggists in this city who have as large a consultation for venereal diseases as many of our specialists, yet have no further qualifications for practice than are comprised in a license to compound prescriptions and in the enjoyment of the very questionable title of "Doctor" among their customers. And yet the patients of these prescribers are abundantly satisfied to pay exorbitantly for cubebs, copaiba, mercury, and iodide of potash, in consideration that advice is given gratis. By some uncharitable young practitioners of medicine this may be styled cheating the doctor of his fee, but by the enterprising counter-prescriber it is generally looked upon as a stroke of business.

Another abuse of the prescription business, and one which may be looked upon as a phase of counter-prescribing, is the offering of gratuitous advice concerning the contents and uses of the prescriptions of physicians. The self pride of the compounder is attacked when the messenger with a prescription asks him if such remedies are proper for such a disease as the patient is supposed to be suffering from. The evasiveness of the answer not uncommonly resolves itself into an injunction that the messenger shall not repeat the opinion expressed concerning the writer of the prescription. We do not wish to say that this is a very common practice, but it is indulged in with sufficient frequency to warrant notice in this connection.

The same may be said of the practice of substituting one drug for another in a prescription, or of omitting altogether what is considered by the prescriber as an essential element in his recipe. Diminishing the dose of a drug without consulting the physician, on the possible supposition that the latter has made an error, is another method of unfair dealing on the part of the compounder. But worse than all is the recommending of a patent medicine in place of that duly prescribed by the family medical attendant. Not a few respectable pharmacists have preparations of their own, which range in importance from tooth pastes, and proprietary perfumes and extracts, to cough mixtures, pile cures, fever and ague remedies, and kidney teas. Human nature scarcely expects that these articles will be modestly placed in the background until they are sought for by the customer; and hence the druggist, very innocently, perhaps, interferes with the prerogative of the legitimate prescriber for disease.

These are, however, little abuses in the business of compounding which the physician and prescriber is expected to condone, as otherwise he might, in the opinion of some advanced innovators, interfere with the legitimate business of the ordinary pharmacist. We name these as a type of the abuses for which the druggists themselves are to blame, but we are happy to say that there are many pharmacists who are above suspicion in those respects, and consequently beyond criticism. We would that they were more numerous. As it is, they are hardly sufficient in number to make more than exceptions to the general rule, and give to us a tangible foundation upon which to build our hopes of reform. In a succeeding number we shall continue the discussion of this subject.

HUMAN AND BOVINE TUBERCULOSIS.

The question of the relation which the bovine tuberculosis holds to the human, is one that is again deservedly awakening general attention. When it is remembered that in some places nearly five per cent. of cattle are affected with tuberculosis, the practical, as well as the scientific importance of studying the subject will be readily acknowledged.

There are two points which need special investigation and definite settlement. These are, first, the identity of tuberculosis of cattle with that in man; and, second, the possibility of man's being infected with the bovine disease by using the flesh or milk of cows affected with it.

Bovine tuberculosis (the pearly sickness of the Germans) has always appeared to have pathologico-anatomical characters considerably different from the human disease. The tuberculosis eruption, in the former case, affects by preference serous membranes, especially those of the pleura and peritoneum. It has been called, on this account, a serous tuberculosis. There is, furthermore, a breadth and pedunculated arrangement to the serous nodules which is quite characteristic. They are sometimes arranged along the membrane like strings of pearls. The French call the disease "pommelière," from the potato-like clusters in which the nodules group themselves. The bronchial and abdominal glands are also characteristically enlarged, each containing several distinct, round tuberculous masses. The tubercles, when they have thus appeared, have a tendency to calcify, rather than soften, as in human tuberculosis. Microscopically, they are said by some to be identical with human tubercles. Klebs, Schüppel, Fuchs, and others, take this view. Virchow, however, asserts that the pearly nodules are little lymphosarcomata, and considers the disease essentially different from genuine tuberculosis.

The evidence that the diseases are identical comes more from experimentation by inoculation and feeding than from histological study. Thus it is now positively ascertained that inoculating bovine tuberculous matter in lower animals, such as sheep, swine, rabbits, and dogs, or feeding the same with the flesh or milk of diseased cows, will produce tuberculosis in these animals. And most authorities are agreed that this is a genuine miliary tuberculosis, like that obtained from inoculating human tubercle. Schüppel, Zürn, and Klebs are very positive on this latter point. Furthermore, Klebs asserts that by inoculating calves with human tubercle he has produced the characteristic pearly eruptions of the bovine disease. All this points pretty strongly to an identity between the two diseases. There are some facts, however, which oblige one to hesitate before adopting a positive opinion.

Gerlach fed twenty-seven animals upon the flesh of tuberculous cows. Of these, only eight presented lesions which could be considered tuberculous. Virchow fed fourteen small animals, of different kinds, upon the milk of a cow supposed to be tuberculous. A large number of these animals showed the tubercular eruption upon autopsy. When the cow was killed, however, its lungs were found filled with echinococci cysts, but had no tubercles at all. Finally, a series of cases has recently been reported in *The Lancet*, by Dr. Charles Creighton, which have an important bearing upon the subject. These cases, during life, were considered to be those of ordinary acute miliary tuberculosis. On post-mortem examination, however, Dr. Creighton describes them as all having the peculiar appearances of the pearly sickness of cattle. He infers, therefore, that the two diseases, bovine and human tuberculosis, are not identical, but that they are intercommunicable. The evidence is not sufficient to settle the point, and we must leave it here for future investigation. But the probabilities of the whole are that bovine tuberculosis, whether identical with human, or not, can be communicated to man. This probability should furnish every stimulus to physicians and pathologists to investigate the subject further.

Reviews and Notices of Books.

Atlas of Human Anatomy, containing 180 large plates, and arranged according to Drs. Oesterreicher and Erdl, from their original designs from nature, etc., etc., with full and explanatory texts. By J. A. Jeançon, M.D. Cincinnati: A. E. Wilde & Co.

On the appearance of Part I. of this admirable atlas we took occasion to speak in the highest terms of praise concerning the accuracy and artistic elegance of the figure represented. Since then we have received Parts II., III., and IV. of the series, containing a collection of life-size dissections. The plates before us represent the superficial arterial supply of the head, neck, and also of the deep arterial supply of the same regions, together with the thorax and the branches of the popliteal as they ramify over the knee-joint. The nerves of the neck and thorax are represented in another life-sized outline drawing, which, like the figures already mentioned, is a marvel of artistic beauty, a rare example of anatomical accuracy, and a wonderful exhibition of detail work.

In the same series of plates is seen the arterial supply of the upper extremities, showing the deep and superficial palmar arch and the anatomical relations of the same.

Osteology is also represented—the base, floor, and vertical section of the skull are shown with typical vertebræ; also a section of the lower jaw, the bones of the hand and of the foot, and, lastly, sectional views of the shoulder and elbow joints.

As we have already said, all these representations are life-size. The plates alluded to—of the arteries and nerves—could hardly be more perfect, but in those of the bones, ligaments, and joints, there is room for much improvement in detail drawing. For the most part, the bones are very coarsely drawn, and do not give the reader an accurate idea of the facets, grooves, and prominences which play such an important rôle in the anatomical relations of these parts.

Photographic Illustrations of Skin Diseases. By Geo. Henry Fox, A.M., M.D. New York: E. B. Treat & Co. 1878.

The completion of this atlas in twelve parts gives us an opportunity, in a general way, of speaking of the faithful and painstaking manner in which the author has performed his work. On former occasions we have noticed the different parts as they appeared, and our readers have already an idea of the plan of representing the different typical forms of skin disease. We say typical, for the reason that Prof. Fox has succeeded, in almost every instance, in presenting the leading features in each class of cutaneous eruption. The opportunities for making selections have been very great, and he has certainly improved them in a way that will be eminently satisfactory to the student and the practitioner.

The time has gone by for prosy descriptions of skin lesions, and photography comes to our aid in presenting the actual appearances. When we add to this the effect of color we have nothing to wish for in the way of making the study of skin diseases a pleasant and profitable pastime.

As a whole, the work is an invaluable contribution to the specialty, and is especially adapted to the wants of the general practitioner.

The Throat and its Functions in Swallowing, Breathing, and the Production of the Voice. By Louis Elsberg, A.M., M.D. New York: G. P. Putnam's Sons. 1880. 8vo, pp. 60.

This book contains a lecture delivered by the author in the course of popular scientific lectures under the direction of the New York Academy of Sciences. The subject is treated of in a popular style, being chiefly intended for non-professional readers. The book is gotten up in good style, but would have been rendered more valuable had there been an index.

Students' Aids Series. Aids to Chemistry. Part I. Inorganic—The Non-Metallic Elements. Part II. Inorganic—The Metals. Part III. Organic. By C. E. Armand Semple, B.A., M.B., Cantab., M.R.C.P., Lond. New York: G. P. Putnam's Sons. 1880.

These three little books consist of abstracts of lectures delivered by the writer to his pupils. As aids to those commencing the study of chemistry, they will be of advantage; but we would strongly deprecate the use of such books by advanced students, or those who intend passing an examination on the subject, as it is only treated of in a cursory manner, and larger works should be made use of, in order to obtain a thorough knowledge of chemistry.

Bible Hygiene or Health Hints. By A Physician. Philadelphia: Presley Blakiston. 1880. 12mo, pp. 249.

The object of this work is to render popular the subject of hygiene. The Bible is largely quoted throughout the work, mainly to show that the subject of sanitary science is treated of there, and also that a great many of the ideas contained in that book are carried out at the present day. The book can be read with benefit even by medical men, as it contains much valuable information.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, June 9, 1880.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

CHELOID GROWTH OF EAR.

DR. POST presented a specimen of cheloid growth of the ear following the perforation of the lobe of the ear for an ear-ring. A small growth of the same character existed in the lobe of the opposite ear and was also excised. After the ear-rings were inserted a number of years ago there was a considerable amount of inflammation of the parts.

In the present instance the ear-rings were of the finest gold, purchased of a leading jeweller, who made the necessary perforations. In answer to a question from Dr. Satterthwaite, Dr. Post stated that cheloids in the ear were not liable to return after thorough extirpation.

DR. SATTERTHWAITE referred to a case in which he removed a cheloid from each ear three years ago, and in which the disease returned within a year.

RUPTURE OF THE BLADDER FROM A FALL.

DR. PEABODY exhibited a specimen of rupture of the bladder. It was removed from the body of a man twenty-three years of age. Three days before his death he fell down-stairs, striking upon his back. From this time on he had severe pain in his abdomen and frequent vomiting. The next day he entered the New York Hospital with all the symptoms of peritonitis. His temperature varied between 100° and 102.8°, and his pulse between 112 and 120. He sank steadily, and died three days after the accident. All the time that he was under observation he suffered from retention of urine. When drawn by the catheter it contained much blood.

Autopsy, twenty-two hours after death.—There was general peritonitis, which was most intense in the neighborhood of the cæcum. The peritoneum contained 350 c.c. of reddish fluid, with many flakes of lymph. This condition was fully explained by inspecting the specimen. About half an inch to the right of median line was a rent in the bladder. It was two inches long and extended to within an inch of the anterior abdominal wall. Its edges were granulating. There was nothing else of interest in the autopsy. The case was interesting as showing how slight internal violence could rupture a bladder which presumably was full.

ACUTE ULCERATIVE ENDOCARDITIS.

DR. PEABODY presented a specimen of the above with the following history:

The patient was a woman, 43 years of age. Three weeks before death she twisted her foot while going upstairs, and caused a fracture of the left fibula, 1½ inch above the ankle-joint. For this trouble she entered the New York Hospital six days after the injury. On admission she had pneumonia in the upper part of the right lung, and soon becoming delirious, she, by constant tossing about, converted her simple fracture into a compound one. The pus burrowed in both directions and finally involved the ankle-joint. During the next ten days she had symptoms of septicæmia and died exhausted two weeks after admission.

Autopsy, twenty-four hours after death.—The wound was as described above. There was meningitis, with extensive purulent exudation over both base and convexity of brain. The upper lobe of the right lung was in condition of gray hepatization.

The *heart*, which was shown you here, was normal in size. The muscular tissue was normal. The valves on the right side were normal. On the auricular surface of both segments of the mitral valve, running along their free border, was a loss of endothelium sufficient to make distinct ulcerations. A similar condition existed on the ventricular surface of two segments of the aortic valve, except that the ulcers were irregularly circular and rather more extensive. One of them was at the junction of two segments of the valve, and both ulcers had loosely attached to them, at the time of making the autopsy, large masses of firmly coagulated fibrine, upon whose roughened surface, in places recently coagulated, blood was to be seen.

Each kidney and the spleen contained a recent hemorrhagic infarction whose centre in each case was purulent.

Upon microscopic examination of the kidneys a few colonies of micrococci were found in the vessels and some apparently loose in the kidney tissue. Teased specimens, removed from the ulcers in the heart and also from the coagula attached to some of the ulcers, showed large colonies of micrococci. Sections of the anterior flap of the mitral valve, which you observe has been cut away, showed the condition of the site of the ulcer to be that of recent inflammation, and also showed numerous colonies of micrococci in the tissue of the valve. In the lungs, also, micrococci were found in a large vessel. There were no micrococci found in the brain.

FAT EMBOLISM IN LUNGS AFTER FRACTURE; ITS SIGNIFICANCE AS A PATHOLOGICAL LESION.

DR. PEABODY lastly exhibited a microscopical specimen of fat embolism in the lungs after fracture. The patient from whom the specimen was removed was a young man, aged 22 years, who fell down a hatchway, sustaining a simple fracture of the right tibia and extensive fracture of the skull, causing intra-cranial hemorrhage from middle meningeal artery, and death on the third day. In answer to a question from the President, Dr. Peabody stated that sometimes fat emboli would of themselves cause death, but as a rule their presence was not of much clinical importance.

DR. HOWE referred to a case of transfusion of milk in the St. Francis' Hospital, in which death at the end of five hours after the operation was charged to fat emboli in the heart and lungs. About seven ounces of milk were injected into the long saphenous vein about 11 A.M. The patient walked down to the ward, took his dinner without trouble. About three o'clock, became comatose, and died an hour afterward.

RUPTURE OF THE BLADDER FROM STRAINING.

DR. L. BOLTON BANGS presented a specimen of rupture of the bladder.

The patient from whom the specimen was taken, was a male, 42 years of age, of temperate habits, and with the exception of his genito-urinary troubles was usually well. About fifteen years ago, while on horseback, he was thrown forward upon the pommel of his saddle, and his urethra sustained an injury, which, within two years after, caused frequent and painful urination and marked diminution in the size of the stream. He went to Edinburgh and sought relief at the hands of Prof. Syme. The latter found the urethra to be narrowly strictured at about 4½ inches from the external meatus, and treated it by dilatation. The calibre of the urethra at the time of beginning treatment was not stated, but the patient was discharged with directions to pass a nearly straight metallic instrument of the size of 16 French, at frequent intervals all the rest of his life. During the succeeding years he had occasional attacks of retention of urine, which were always relieved by the catheter. His condition gradually grew worse, and in the year or two preceding his death he had had several hemorrhages, presumably from the bladder; his urination was accomplished in a small stream, with great straining, the urine being mixed with stringy mucus, and he had frequent attacks of retention of urine, which sometimes were relieved by the catheter, and at others by hot baths and opium For a month previous to his death no instrument could be made to pass the stricture; and a *fortnight* before, he had a hemorrhage which lasted a week. He had come to look upon these attacks of retention and hemorrhage with indifference, and being a man of considerable fortitude, had treated them himself, or "waited till they passed off." He had had no surgical attendance since that of Prof. Syme. The writer was summoned to him in great haste about 8.30 A.M., with the statement that while he was straining to urinate as usual, "something in his bowels had given way, and he was now in great pain." When seen an hour after the accident, his face was pallid, extremities cold, and drenched in sweat; he was lying on his back with his knees drawn up, and complaining of great pain in his abdomen, which was tender on palpation. His pulse was 120 and very feeble. Temperature (axilla), 102½°. Under the free use of stimulants and morphia he rallied sufficiently to give, with the aid of his wife, the foregoing meagre history.

Examination of his urethra showed an impassable stricture at 4½ inches from the external meatus. Aspiration of the bladder failed to withdraw any urine.

He continued to fail, and died ten hours after the accident. At the autopsy, which was made three hours after death, the abdomen only was opened. There were the usual evidences of general peritonitis, and the fluid, in which were flocculi of lymph, had a very slightly urinous odor. The intestines were agglutinated to the summit and body of the bladder, and on lifting them, a *pouching* of the posterior wall of the bladder was seen. This pouch was to the left of the median line, beneath the line of reflection of the peritoneum, and at its apex was a minute irregular opening communicating with the cavity of the bladder. At and around the opening the pouch consisted of peritoneum only. The bladder was removed and opened by an incision from its summit to and including the prostate gland. In its cavity was about half an ounce of purulent, bloody urine. Its several coats were notably hypertrophied, being three-fourths of an inch in thickness. The mucous coat was of a brownish color, soft, and everywhere covered with a layer of muco-pus. In the posterior wall of the body, an inch to the left of the median line and midway between base and summit, was an irregular circular ulceration, with complete destruction of the mucous, submucous, and muscular coats. The peritoneal coat at this locality was thickened, except at the inferior segment of the cavity where it was of extreme thinness, and here was the opening alluded to forming the communication between the bladder and pelvis. On the same plane, in the median line, and extending to the right of it, was another irregular lop of tissue, forming a cavity in the muscular coat of an inch in circumference and containing a little pus, which flowed into the bladder on pressure from without. At the base of the bladder were five small calculi, the largest not bigger than a hemp-seed, each in a depression in the thickened mucous membrane of corresponding size. On the floor of the prostatic urethra, to the left of the veru montanum, was an opening 5 mm. in diameter, communicating with a cavity in the left lobe of the prostate gland, containing pus and two or more calculi. In the right lobe of the prostate was a similar cavity containing pus and calculi, and opening into the urethra by two minute holes.

The urethra and kidneys could not be obtained for examination.

Dr. Howe suggested that in such cases, when a diagnosis could be made, it would be good practice to cut down upon the bladder, sew up its rent, wash out the pelvic cavity, and take the chances.

BULLET IN HEAD OF TIBIA SEVENTEEN YEARS.

Dr. Delavan presented a bullet removed by Dr. Markoe from the upper portion of the tibia of a soldier who had been wounded at the battle of Chickamauga, seventeen years ago. The ball entered the posterior aspect of the leg, about an inch and a half below the head of the tibia. Shortly after the reception of the wound, a sinus formed upon the anterior aspect of the leg and continued to discharge up to the time of the operation. The general symptoms were those of chronic disease of the bone. In the neighborhood of the ball a small quantity of gunpowder was found, as, also, the remains of some clothing. The ball itself was encrusted with a calcareous deposit from the pus in which it had been bathed for so many years.

BUCKSHOT IN HEART OF A DOG.

Dr. Delavan also presented the heart of a setter dog, in the muscular substance of which there were nine large-sized buckshot. As the dog had not hunted for a number of years it was fair to presume that the shot had been carried for a long period.

THROMBOSIS OF PULMONARY ARTERY.

Dr. Heinemann presented a specimen of thrombosis of the right pulmonary artery. The case was one of erysipelas of the face, followed by abscess of the left side, giving rise to phlebitis of the left jugular vein, and plugging up of the same with thrombosis of the right pulmonary artery, and consequent infarctions of the lung.

EXCISION OF ANKLE-JOINT.

Dr. Howe presented a patient upon whom he had performed subperiosteal excision of an inch and a half of the tibia and fibula, and the upper portion of the astragalus. The shortening was two inches, but this was compensated for by the wearing of an extra pad under the heel. The motions of the new joint were quite perfect.

DIAGNOSIS OF VAGINITIS AND METRITIS, BY MICROSCOPIC EXAMINATION OF URINE.

Dr. C. Heitzmann called the attention of the society to the differential diagnosis between urine of the male and the female. In the latter, he stated, that by the microscope almost always vaginal epithelia were seen, except in urine of virginal persons. The presence of pus-corpuscles, with a larger amount of epithelia of the vagina, both the upper flat and the deeper cuboidal, which latter often exhibit endogenous formation of pus-corpuscles, admitted of the diagnosis of *vaginitis*. Larger caudate and sharply angular epithelia were present on the vaginal portion of the uterus; if such epithelia were present in the urine, together with pus-corpuscles, the diagnosis *cervicitis* could be made. Columnar, ciliated epithelia, either in toto or broken apart into smaller elongated pieces, some of which also may be ciliated, appeared in the urine, whenever *metritis* was present. Pus-corpuscles discharged from the uterus were often ciliated. Care should be taken to guard against errors due to the presence of thin pseudopodia or of attached bacteria. Such ciliated pus-corpuscles were quite characteristic in the urine, in cases of metritis. The presence of connective-tissue shreds always indicated ulceration; and together with the occurrences, as mentioned above, allowed of a determination of the seat of the ulceration.

NEW FORMATION OF EPITHELIA IN CANCER.

Dr. C. Heitzmann also drew attention to the fact that epithelia were invariably surrounded and separated from each other by a narrow layer of the horny cement-substance, and that the rim of the cement-substance was always traversed by delicate cervical threads, the so-called thorns or prickles. He first pointed out in 1873, that these thorns were formations of living matter, which unite the reticulum of living matter of one epithelium with that of all its neighbors. Thus the living matter formed an uninterrupted layer throughout all epithelial formations, both in normal and morbid conditions. Dr. Louis Elsberg had found that in papilloma of the larynx, and that of the penis in many places, especially in the layer of cuboidal epithelia, the thorns became thickened, coalesced, and produced first solid roundish, oblong or spindle-shaped lumps of living matter, which afterward became transformed into a reticulum, and supplied with nuclei. These newly formed epithelia were wedged in between the old ones, which were pushed apart or exhibited corresponding bag-like excavations. Epithelia of cancer grew from connective tissue, as first asserted by R. Virchow, and five years ago corroborated by W. Hoeber, in H.'s laboratory. This mode of new formation he thought must be admitted against the views of Thiersch, Billroth, Waldeyer, and others, who claimed that epithelia of cancer could originate from former normal epithelia only. Besides, there were visible, especially in rapidly growing cancers, lumps of living matter in the cement-substance, exhibiting the whole series of changes toward the formation of new epithelia, exactly like papilloma. Two sources of epithelia, he claimed, should therefore be admitted: one was the connective tissue; the other the thorns or prickles in the cement-substance, which thorns thus were claimed to be formations of living matter.

Dr. Heinemann did not understand how some forms of bladder epithelia could be distinguished from those found in the cervix uteri.

Dr. Heitzmann replied that the double caudate epithelial, such as was found in the cervix, did not occur in the bladder.

Dr. Heinemann could not distinguish the double caudate epithelial, described by Dr. Heitzmann as belonging to the cervix, from those found in the bladder.

Dr. Peabody remarked that all the different varieties of epithelia were found in the bladder; in fact, he was accustomed to use that organ for the purposes of demonstrating the different varieties to students. He confessed his inability to make any diagnosis from the epithelia alone.

Dr. Satterthwaite remarked that he believed specific statements made as to the precise locality from which epithelial corpuscles came, when occurring as urinary deposits, should be received with much caution. In the matter of making differential diagnoses as to the location of a disease from such corpuscles, it was doubtful if we had gained much of late years. He, personally, was inclined to be more conservative than when his attention was first directed to these matters, and he thought that most of his colleagues in microscopic work occupied the same position. In a general way we were reasonably sure of being able to make a diagnosis between the epithelium of the mouth, bladder, vagina, and tubes of the kidney. The former and latter were probably the most certainly detected—epithelia in the form of casts were perhaps absolutely unmistakable when occurring in urine. Beyond these limits there was great opportunity for error, and this arose from the most natural reasons. In the first place, the epithelium varies according to its position in the organ, then often as to its depth from the surface. Again, where the epithelium of one part is exchanged for a different variety, there is almost invariably a certain amount of transitional epithelium which in form and shape assumes all sorts of gradations between the two. Then, also, the corpuscles undergo peculiar changes, if inflammation happen to be present, or in passing through some physiological act, such as menstruation.

In this connection he wished to call attention to a point in urinary pathology that had some clinical importance. In Ebstein's article in "Ziemssen's Cyclopædia" he states that a diagnosis of pyelitis can be made with certainty when the characteristic epithelial cells of the renal pelves are found in purulent urine. These bodies he describes as flattened, laminated, caudate epithelial cells. Dr. P. L. Creedon, who looked into this matter in Dr. S.'s laboratory, somewhat over a year ago, found, both in the ureters and urethra, corpuscles corresponding to this same description, and after comparing drawings of those which he made with the camera, practical distinction seemed to be impossible. Dr. S. also stated that he had as yet failed to see that epithelial bodies were uniformly united to one another by the delicate processes called "prickles" just described. This condition, which had been recognized for many years in the Malpighian layer of the skin, he had often seen in papillomas and epitheliomas; he had not been able to see it in scirrhous and medullary carcinomas. He was not now prepared to state that "prickles" did not exist in other instances. It should be remembered, however, that in dealing with these topics most modern microscopes are unable to give us much aid, for many of the highest lenses give illusory appearances. He would say the same thing of the intra-cellular networks already alluded to and beautifully figured by Klein in his recent atlas. Dr. S. stated that he was still unable to convince himself that such a network existed in normal epithelial corpuscles. He had seen appearances of this nature under pathological or artificial conditions.

Reference to the illustrations in some of the best and most recent works on microscopical subjects would also show that these views have not yet obtained much sanction.

THE CAVITY OF THE TYMPANUM AND THE OSSICLES OF THE EAR.

Dr. Rudolf Tauszky presented two specimens representing the cavum tympani, the bony portion of the Eustachian tube, the cells of the mastoid process of the temporal bone with the moving apparatus of the ossicles of the middle ear, and also demonstrated the membrana tympani.

These preparations were presented to him as a *memento* by his former schoolmate, Prof. Adam Politzer.

He also showed the articulations existing between the head of the hammer and the anvil, and the longer or descending process of the latter with the stirrup, of the stirrup with the fenestra ovalis. Anchylosis of the hammer and anvil articulation—adhesion of the descending process of the anvil with the membrana tympani—so also adhesion of the stirrup with the border of the fenestra ovalis. Even dislocations between the anvil and the head of the stirrup were found, according to Hyrtl, by Tröltsch, in his post-mortem examinations of deaf persons, as causes of deafness.

NEW STAINING FLUIDS FOR MICROSCOPIC SECTIONS—METHYL-GREEN AND BISMARCK BROWN.

Dr. Satterthwaite presented, on behalf of Dr. W. H. Porter, a number of microscopic slides which exhibited the action of some new reagents that had come into use for histological work. He first exhibited a normal human kidney, injected in two colors, but which had subsequently been stained in Bismarck brown. The method was practically the same as that given by Weigert (*Archiv f. mikrosk. Anat.*, xv., p. 259). A concentrated aqueous solution is made by boiling and adding of the dye, gr. iij.. to distilled water, ℥j. The liquid is then filtered. Sections are immersed from half an hour to half a day. The longer period is found the most desirable. After removing from the bath they are placed for five minutes in a five per cent. solution of acetic acid. They then are passed through alcohol and oil of cloves, after the usual methods, and finally mounted in Dammar varnish. The color affects chiefly the epithelial elements which are clearly differentiated from the surrounding connective tissues. The borders of the corpuscles take a bright brownish-yellow, the nuclei an ochre brown. This coloring material appears to be the best we have at present for epithelium. It was observed that in the convoluted tubes of the kidney the striations of Heidenhain were unusually distinct.

A specimen of waxy liver was then exhibited. In this case the amyloid substance was beautifully differentiated by methyl-green. The color is at most precisely the same as that produced by the *violet de Paris* of Cornil. The merit of drawing attention to it seems to belong to Curschmann, of Hamburg (*Archiv f. path. Anat.*, lxxxix., 3., p. 556). A solution of about five grains to the ounce of water is used. The specimens are then bathed in the fluid over night. Acetic acid is not used to set the color, and the sections are immediately mounted in glycerine. The waxy portion assume a brilliant violet, the normal tissues a dull green.

A specimen of waxy liver prepared by the method of Cornil was also shown. This color, known as the *violet de Paris*, is also the methylaniline de Poirier, "350 N." The specimen had been prepared about a year and a half previously, and though it has passed through the regular method employed for mounting in Dammar varnish, the color was as bright as on the day of preparation.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, June 28, 1880.

Dr. A. E. M. Purdy, President, in the Chair.

The first paper of the evening was by Prof. J. C. Dalton, and was entitled

A READY METHOD OF MAKING BRAIN SECTION FOR POST-MORTEM EXAMINATIONS.

Dr. Dalton spoke of the imperfections in the present methods of making brain sections. They have this objection, that, after having opened the ventricles, if any lesion is found in the white or gray matter, it is difficult to tell exactly what its relations are. This is especially true if oblique sections are made. In order to prevent this difficulty, it is necessary, first, to have some contrivance which will hold the brain firmly and allow the knife to go in a certain plane every time. For this purpose Dr. Dalton had devised a kind of open box in which to hold the brain. An idea of its shape may be gained by taking a large cigar-box, removing both ends and the top, then cutting down the two sides at each end, leaving the highest part in the middle, which is connected by a bar of wood. Through this elevated middle portion of the two sides are vertical slits, and through these the knife is passed when the sections are made. The dimensions of the box are of much importance, as it should not be too large for the smaller-sized brains, nor too small for the large ones. The bottom is formed of a board 38 mm. thick, 357 mm. long, and 128 mm. wide. The sides are formed of pieces of wood 22 mm. thick, and are 140 mm. high. The slit for the knife is 2 mm. wide. In the centre of the wooden bar connecting the two sides is a hole. In this is placed the tube that leads from the lubricating fluid (glycerine and water). This lubricating fluid is turned on while the sections are being made. The whole contrivance is placed in a shallow pan. The knife used is a very long one, with a broad blade. Its dimensions are 46 cm. by 2½ cm.

When the sections are to be made, the brain is placed on its base, to the left of the vertical slits. It is then pushed along with the hand until the place where the first section is to be made is opposite the vertical slits.

The brain must slide easily, and, in order that it may do so, the bottom of the box is fitted with a plate of glass which is covered with the lubricating fluid. The knife must also be moistened with the same fluid, glycerine and water. After the brain is placed in position, it must be held firmly there. This can be done by laying a piece of raw cotton upon it and holding on with that. The first cut may be made just about the anterior edge of the corpus callosum. The brain is pushed along until this part is about opposite the slits. The lubricating fluid is then turned on, the knife drawn through the slits, and the section made with a single cut. It is most desirable to make all the sections of exactly the same thickness. The thinnest sections easily obtainable are 8 mm. In order to have them all of this thickness, a plate of glass is made which just fits the right half of the floor of the box. It is laid in loosely and can be raised up. After the first cut is made and the end of the brain removed, this glass plate is lifted up and placed directly against the cut surface of the brain.

The distance between the surface of the glass next the brain and the slit through which the knife passes is just 8 mm. The knife is then drawn through the brain again, and the first thin section is made. By tipping back the glass plate, the new section falls upon it and may be lifted away. It is then placed in a shallow dish and covered with water to preserve its freshness and keep open the ventricles. A number of sections were then made, which showed the various structures very perfectly.

One of the advantages of the method is that, knowing the width of the sections, the examiner can easily tell exactly where the lesion is, if any be found.

Another advantage is that there can easily be made tracings of whatever it is wished to record. The section is placed in a shallow dish containing glycerine and water. A piece of ground glass is then placed over the section, and with a pencil exact tracings can easily be made of both normal and morbid conditions. These tracings can be transferred to white paper, and these in turn very easily and cheaply photographed.

Dr. Dalton did not claim for this method that it gave absolute scientific accuracy, but for ordinary examinations it would be amply satisfactory.

The second paper of the evening was by **Dr. J. G. Kiernan**, entitled

THE PSYCHOSES OF THE SECONDARY FEVER OF SYPHILIS.

Dr. Kiernan said that he had not been able to find any literature upon this subject, and presented it now as something deserving study.

Four cases were related illustrating the disease. The first case was that of a man who, six weeks before admission to the asylum, had contracted the initial lesion of syphilis. On admission he had a fever (103°) and mental excitement with delusions. He was given quinine and sedatives, but they did little good. On the third day the syphilitic history was obtained. The patient was then put under mercurial treatment. His temperature at once sank and his mind became quieter. On the fifth day a roseola appeared on the skin. The mercurial treatment was then neglected by the nurse; the patient began to get wild again, and his fever returned. He had to be covered with cloths smeared with mercurial ointment, and put under restraint. He gradually improved, and in the course of a month was discharged cured.

Case II. was much like the first. The patient, twenty-five days before admission, contracted the initial lesion of syphilis. On admission he had mental excitement, was very talkative, and had a high fever (104°). He had delusions, and thought he saw ants, lions, wolves, etc. Quinine and sedatives had little effect. On the fourth day a roseola appeared on the skin. Mercurial treatment speedily relieved all the symptoms, and the patient was discharged cured.

Case III. was that of a man with criminal antecedents. On admission he had mental excitement and fever. His delusions were very marked. He had signs of a recent chancre on his penis. He was wrapped in a sheet smeared with mercurial ointment, when he immediately began to improve, his mental condition changing to that of quiet insanity and his fever disappearing. It was then learned that he had been discharged from a Massachusetts asylum, where he had been a quiet patient for years. He was taken to New York by some official and dropped in the streets with $2 in his pocket. He wandered into a dance-house, where he probably contracted the chancre found upon him. He subsequently continued in a condition of harmless insanity.

Case IV. was that of an old man, aged 75, who contracted the initial lesion of syphilis while a quiet patient in the insane asylum. Several weeks later he began to show much mental excitement. He had hallucinations and delusions, together with a high fever. The symptoms improved somewhat under mercury, but the patient became weak and eventually died.

From the study of these cases Dr. Kiernan drew the following conclusions:

1st. That the secondary fever of syphilis gives rise to certain psychoses.

2d. That it produces a species of *raptus melancholicus* allied to the delirium of alcohol, narcotics, and the essential fevers.

3d. That in pure cases no changes, either macro- or microscopical, are likely to be detected on post-mortem.

4th. That the fever of secondary syphilis has an allied action on the brain to the essential fevers, alcohol, and the narcotics.

5th. That heredity appears to exert a predisposing influence, age not seeming to have an effect, but that conclusions cannot be drawn decidedly on the latter point, from the paucity of observations.

6th. That the mercurial inunction treatment yields the best results, and is best applied in the excited state of the patient by his being wrapped in a sheet smeared with mercurial ointment.

7th. That asylum treatment is not advisable if it can be avoided.

Upon this latter point Dr. Kiernan said: "Examining carefully the facts that the superintendent in nearly all asylums leaves the medical treatment to his assistants while he contents himself with receiving visitors, assuming the duties of steward and matron, while the assistant physicians, burdened with the medical treatment, had, in addition, not unfrequently to look after the green-house, the patients' clothing, the patients' friends, and the admiring crowd of female relatives of the superintendent who visit the asylum; when we find two superintendents appointed for marrying trustees' daughters—one as a punishment for treating a criminal with influential friends too leniently when in charge of a penitentiary, another after having been relieved of a similar position because of his relations with corrupt paving contracts; when we find superintendents so ignorant of their patients as to notify the friends of living patients years in the asylum, that they are dead, it seems very safe to conclude that asylums are not hospitals. Since we find superintendents endorsing phrenology, and others finding the moral nature in the great sympathetic, while a third performs phrenological experiments in reproduction on his female patients, for which he is removed by one legislature and replaced by another, it is safe to conclude that superintendents are stewards chiefly remarkable for the presence of a medical diploma."

At the conclusion of Dr. Kiernan's paper,

Dr. Piffard gave an account of the action of the committee appointed to secure the passage of a bill regulating the practice of medicine in New York.

The Society then adjourned to the fourth Monday in September.

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Salicylic Acid in Iritis.—Salicylic acid is gaining some repute in the treatment of iritis and iridocyclitis. It acts best in cases having a marked rheumatic character. It does not appear to be a very reliable remedy, however.

THE NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 13, 1880.

Dr. H. B. Sands, President, in the Chair.

ANEURISM OF THE INNOMINATE ARTERY.

Dr. L A. Stimson presented a patient with the following history: An Irishman, 34 years of age, presented himself at Bellevue Hospital about the 1st of January, 1880, for treatment for pain in the right shoulder, that had begun in the preceding March, had gradually increased in severity, and finally become so severe as to cause him to stop his work. Diagnosis of innominate aneurism was made. Treatment by simultaneous ligation of the common carotid and subclavian arteries was suggested, and the operation was performed on the 22d of January. The wound healed promptly and kindly, and no accident occurred in the course of the recovery. For two or three weeks the tumor remained unchanged externally; then it began to diminish in size, the murmur disappeared, and it solidified. Previous to the operation the lateral diameter of the tumor was three inches, and its height above the clavicle one and one-half inches. Its reduced diameter was about one inch, and its height above the clavicle half an inch. A distinct pulsation remained. Whether it was from within or was communicated, Dr. Stimson did not feel certain, and asked the opinion of the Society upon that point. There had been no recurrence of pain in the shoulder except once, two weeks after the operation, and it disappeared promptly after the application of a blister. In the progress of the case there was an extremely rapid pulse, reaching 115 to 120, without fever or pain to explain its occurrence. So far as he knew, it was the seventeenth complete case.

Dr. A. C. Post suggested that it was unusual to have after operation such a diminution in the volume of an aneurism with so much fluidity as still existed in the tumor.

Dr. Markoe thought that, by pressing his fingers into the neck by the side of the tumor, he recognized a distinct pulsation from the aneurismal cavity.

FRACTURE OF THE INTERNAL CONDYLE OF THE HUMERUS.

Dr. T. M. Markoe presented a patient who had received an injury of the elbow-joint, and the following was the history of the case: On the 11th of November, 1879, a young man 16 years old, fell, reached out his right arm to save himself, but in some way not well understood, he received the entire force of the injury upon his elbow. A dislocation backward was suspected, and it was reduced. About six weeks ago the patient was brought to Dr. Markoe by Dr. Field, of New Jersey, and at that time the elbow presented easily recognized features of fracture of the internal condyle. The result was union of the fragment with a restricted degree of motion.

DISLOCATION OF BOTH BONES OF THE FOREARM BACKWARD WITH FRACTURE OF THE OLECRANON.

Dr. Markoe presented a second patient, under treatment, who twelve days previously fell from a bicycle, striking upon both hands and forearms and the end of the right elbow struck the floor with great violence. Two hours after the injury, Dr. Markoe saw the patient, and found a dislocation of the elbow backward. Both bones of the forearm, retaining their relation the one to the other, were thrown backward and the olecranon process was broken. In consulting all the authorities accessible he had been unable to find any reference to the possibility of the occurrence of such an injury. It seemed more than probable that the same force which caused the dislocation became concentrated upon the olecranon process, and produced a fracture. Fortunately, the fibrous coverings were not separated, and the fragment was not withdrawn from its attachment to the shaft of the bone. At once it became an important question as to what position the limb should be placed in when dressed. When the limb was straightened he found a tendency to slipping forward; so much so, he feared, that if dislocation did not occur the forward displacement would be a serious matter with regard to the ultimate usefulness of the arm. On the other hand, when he bent the forearm upon the arm he feared a too great separation of the fragment of the olecranon; for, if the fragment had been separated and carried up as much as an inch by the action of the triceps, the question of treatment would have been a somewhat difficult one to answer. He therefore made a compromise, dressed the limb in the semi-flexed position, and the separation of the fragment was only very slight.

Dr. Briddon asked Dr. Markoe if he had seen the fragment of the olecranon drawn up to the distance of one inch.

Dr. Markoe replied that he had. The present case was the second of fracture of the olecranon *without* separation that he had seen, although he thought it occurred not infrequently. In the other case the patient recovered perfectly.

Dr. Sabine mentioned a case seen in Bellevue Hospital, in which there was fracture of the olecranon without separation of the fragment.

Dr. Post suggested that wide separation of the fragment was, in many cases, due to manipulation. In examining an injured elbow he always looked first for fracture of the olecranon, so as to avoid flexing the forearm if it chanced to be present.

The President remarked that the interest in Dr. Markoe's second case turned upon the mechanism of the injury, which did not seem to be explained. It had been taken for granted that two forces acted upon the limb; one upon the olecranon itself, and the other upon the hand, pushing the forearm backward and producing a dislocation. It occurred to him that possibly both lesions might have been produced by the action of a single force. It had been said that the olecranon process could be broken by hyperextension of the forearm, the olecranon process being violently driven into the olecranon fossa, and fractured near its middle part. If that was true, it was just possible that, in the case reported by Dr. Markoe, a fall upon the palmar surface of the hand may have produced hyperextension to such a degree as to cause the fracture.

Dr. Sabine remarked that the tip of the olecranon does not dip into the olecranon fossa so closely as to become a point of resistance to over-extension of the forearm. The lateral ligaments would be the parts first injured in such circumstances.

Dr. Markoe then read a paper

ON FRACTURE OF THE INTERNAL CONDYLE OF THE HUMERUS, EMBRACING THE WHOLE OR NEARLY THE WHOLE OF THE TROCHLEA.—(See p. 118.)

Dr. Briddon remarked that he had always adopted the method of resorting to passive motion long before union of the bone occurred, in all cases of fracture involving the elbow-joint, and it never appeared to interfere with union. All cases which he had seen had occurred in children, and he had begun passive motion at the tenth or twelfth day.

Dr. Markoe recognized the importance of Dr. Briddon's statement, and remarked that upon the question of passive motion, two views were entertained: First, that it should be begun early, and second, that it should be delayed until the parts were quite firmly united. He thought the safer plan was between the two. After the lapse of fourteen days, he usually recommended passive motion. He did not think it was wise to resort to it before the material which was to unite the fracture had been thrown out and begun to organize, although the result possibly might not be affected by an earlier adoption.

Dr. Geo. A. Peters remarked, concerning Dr. Markoe's posterior angular splint with a straight splint on the anterior aspect of the humerus, that, until his last case of fracture of the elbow-joint came under observation, he had used a posterior angular splint and an anterior angular splint, and had been well pleased with the results obtained. In his last case, which occurred more than a year ago—a case of fracture of the internal condyle—he put the limb in the position of strong flexion, and held it with plaster-of-Paris, and secured an exceedingly satisfactory result. The dressing gave the patient great comfort, and the control over the fragment was very perfect. He began passive motion as early as the twelfth or fourteenth day; made it frequently and faithfully, and the result was scarcely any perceptible deformity, and no loss of motion whatever. He favored early passive motion. In the case in which the plaster splint was used, it was bisected so that it could be removed and readjusted at any time without special inconvenience.

Dr. Mason remarked that he had used plaster-of-Paris in fracture of the external condyle, and it had given very satisfactory results.

Dr. Markoe thought that in a case of ordinary fracture of either the internal or the external condyle, without special tendency to displacement, the plaster-of-Paris splint might answer a very good purpose. He, however, should be unwilling to leave so delicate a displacement encased in a plaster-of-Paris splint for fourteen days, and preferred to employ an apparatus that enabled him to watch the exact condition of things, and gave him timely opportunity to correct whatever of displacement possibly might arise during the progress of the case. In ordinary cases, where there was no tendency to serious displacement, the plaster dressing doubtless was very good, but, in the class of cases under consideration, when it was the displacement that made the arm more or less useless, he preferred a dressing that enabled him to daily inspect the parts involved in the injury.

Dr. Keyes remarked that, in anchylosis following injuries about the elbow-joint, the child, as a rule, could not be trusted to make such passive motion as was necessary. He then referred to a case in which the joint became so stiffened in a boy twelve years of age, who would do nothing of his own accord toward restoring motion, that the case was nearly given up, when it was suggested that a row-boat be furnished him and he be allowed to spend as much time on the river as he wished. The result was that he worked his elbow-joint free in about two months without knowing why he should be allowed to indulge so freely in the recreation.

The Society then adjourned.

Correspondence.

“WHETHER VIVISECTION PAYS.”

To the Editor of The Medical Record.

Sir:—The editorial review of my article in *Scribner's* on vivisection, in the Medical Record of July 10, seems to have included me among “the laity who, without knowing much regarding the facts, have yet a good deal of sympathy with the appeals to their humanity made by anti-vivisectionists.” Permit me to correct this error by reference to the July number of *Proceedings of the Medical Society of the County of Kings* (Brooklyn, N. Y.), p. 196. As a member of the medical profession, I trust you will accord me space not only to indicate some inaccuracies in your criticism, but also to suggest that in the positions taken in my article, I have hardly displayed that lamentable ignorance which you infer. The question of unfairness in my treatment of the subject, or of mental obliquity in other directions, I am quite willing to leave to the candor of such professional men as may do me the honor to read my paper.

1. My critic affirms at the outset that, regarding vivisection, “the writer takes the ground that it does not pay, at least not very well.” This is a mistake. I distinctly affirmed that “to the practice of vivisection we are indebted for nearly all our present knowledge of physiology;” that, “as a means of teaching physiological facts, vivisection is unsurpassed;” and even that “*no* experiment, however atrocious and cruel, if performed to illustrate some scientific point, was ever without *any* beneficial result.” In no part of my paper did I take the ground that vivisection—*as a whole*—does not pay.

2. Referring to my description of experiments, which you admit are “annually performed in the medical colleges of this city,” you assert that “the *fact* that these experiments are *all* done under anæsthetics, is not brought out at all.” I do not understand this. When Prof. Flint states in his “Physiology,” in regard to the formation of a pancreatic fistula: “it is generally better *not* to employ an anæsthetic” (p. 270); that in one of Bernard's experiments, “it is not desirable to administer an anæsthetic” (p. 470); that “*we should avoid the administration of anæsthetics* in all accurate experiments on the glycogenic function;” that “*we have lately been in the habit, in class demonstrations, of dividing the fifth pair in the cranium without using an anæsthetic*,” upon what grounds does my critic allege of these same experiments that they are all done under anæsthesia—and charge me with “unfairness?” Is this scientific criticism?

3. Do I correctly understand the Record to allege that, with *one* exception, *all* class demonstrations at Twenty-third Street are at present performed upon animals in a state of complete anæsthesia from ether or chloroform? Is curare or woorara never used to avoid the “exhibition of pain,” or regarded there as an anæsthetic? Are no animals poisoned to show the action of drugs—as by strychnia, for instance—a demonstration pronounced by Dr. Taylor (44 years Lecturer on Toxicology at “Guy's”) as “unjustifiable” and “a purposeless cruelty?” And if this uniform painless experimentation be the rule at Twenty-third Street, is it also alleged of the other medical colleges in New York? The experience of recent graduates hardly confirms what the Record appears to allege.

4. Of my citation from various authorities you remark: "The quotations are brief, and some of them from documents nearly ten years old." In my article thirty-nine references or quotations were made to statements by various scientific and medical authorities. *Two* of these were from Dr. Elliotson's "Physiology"—the testimony of an eye-witness to the cruelty of Magendie and Brachet. *One* other was dated 1872. Of the remaining thirty six, none are from documents of earlier date than 1876. Whether these quotations or references were "to the point" I leave to the reader.

As a physician I decidedly object to being classed among that extreme school of humanitarians who patronize the shambles and advocate the abolition of vivisection. On the other hand, I believe that the opposition to it will never cease until some such system of State supervision exists in this country as obtains in England. My paper was an attempt, from this standpoint, to indicate a "via media" in vivisection which should satisfy both humanity and science. If, in this endeavor to state the limitations of justifiable experimentation, I have done injury to the legitimate demands of scientific inquiry, no one will more readily acknowledge the error than myself. Are the positions taken in my article supported by reliable scientific testimony and opinion? Permit me to restate them:

I. "*The highest scientific and medical opinion is against the repetition of painful experiments for class teaching.*" In support of this, I gave the opinions of Sir Thomas Watson, Sir James Paget, Sir George Burroughs (President of the Royal College of Physicians), Prof. Huxley, and Prof. Darwin. I might have added that of Prof. Rutherford (to whose experiments you refer): "I do not think it at all necessary that any higher animal, *such as a dog or a rabbit*, should be subjected to pain for the education of medical students;" or that of Dr. Sharpey, professor of physiology for thirty years in a London medical school: "Such experiments as those of Magendie on the nerves *ought not to be repeated*." This is my ground; is it that of the Medical Record, and of the physiologists of this country whose views it advocates?

II. "Habitual familiarity with the infliction of pain upon animals has a decided tendency to engender a sort of careless indifference regarding suffering." Is this seriously denied? Can it be necessary to bring forward, in addition to the evidence adduced regarding Magendie, the opinions of Sir James Paget, of Sir George Burroughs, of Drs. Sibson, Sharpey, and Anthony—men who studied in Paris forty years ago? Must we detail the experiments of Mantegazza, of Spalanzani, of Paul Bert, of Brachet, of Bouillard, of Brunner, of Wertheim, and of others, in proof of this proposition? You tell me that my position is "absurd." It is, then, an absurdity shared by physiologists and physicians who are quite able to judge. Dr. Abernethy, in his physiological lectures, said: "I know these experiments tend to harden the feelings." Dr. Rolleston, Oxford Professor of Physiology, declared that he would consider the exhibition of pain in a lecture-room demoralizing to pupils, that the "sight of a living, bleeding, quivering organism *most undoubtedly does* act on that lower emotiono-motor nature which we possess in common with carnivora." "Watch the students at a vivisection," says Dr. Bigelow, of Harvard University. "It is the blood and suffering, not the science, that rivets their breathless attention. *Vivisection deadens their humanity and begets indifference to it.*" These opinions may be "novel to the medical student;" does that make them absurd, and unworthy consideration?

III. In regard to the influence of vivisection over therapeutics, the Record has misapprehended my position. You admit, as in a measure true, that vivisection has furnished no specifics, and has only given us "a mass of questionable theories." I asserted nothing stronger. My thesis was, that "*during the last quarter of a century*," painful experimentation "*has not resulted in the discovery of a single remedy of acknowledged and generally accepted value in the cure of disease.*" Particular care was taken to acknowledge not only the value to therapeutics of physiological knowledge, but also the possibility of future benefit from vivisection. The proposition confined to the experience of the past twenty-five years is a very definite one. How is it confuted? My critic begins with the discoveries of Galen (A.D. 130-201); cites those of Ambrose Paré (about 1539); of Harvey (1619); of Aselli (1662); of Hunter, (1785); of Magendie, who died in 1855; and so, covering almost the entire Christian era, comes to our own time. Is this refutation? Did space permit, I should certainly challenge the inferences you suggest regarding the debt due to vivisection, even in the other cases mentioned in your summary. But I fail to see how they touch the one proposition I laid down. If my critic, omitting reference to past ages, will indicate which of the discoveries mentioned meets and disproves every particular of my proposition, adducing at the same time references to the original series of experiments, I will not only esteem it a favor, but will hasten to acknowledge my error.

It is no object of mine to ignore or belittle the true value of vivisection. But, on the other hand, the interests of science can never be truly advanced by extravagant and unsupported claims of utility or potency in its behalf. Above all others, our age is distinguished for its attachment to scientific truth. We may not always agree regarding the methods by which nature is to be interrogated; there can be no difference of opinion as to the value of truth itself.

Albert J. Leffingwell, M.D.

Dansville, N. Y., July 15, 1880.

[We are very happy to give Dr. Leffingwell a hearing upon the important subject of which he writes. We can assure him that we have every wish to give full credit to him for sincerity in his opinions, and we would add that our omission of his medical title was entirely unintentional. We do not doubt that Dr. Leffingwell is equally desirous with us for the advancement of medical science. We must emphatically reaffirm our opinion, however, that physiological experimentation should not be hampered by legal restrictions, and that Dr. Leffingwell gave an exaggerated view of the cruelty and inutility of vivisection. We must reassert also our previous statements that the amount of pain inflicted upon animals in class-demonstrations in this city is insignificantly small, and is limited to less than half a dozen experiments in all the colleges throughout the course. It should be added also that even in these cases the pain is of short duration; and the idea that it "brutalizes" the student is, we feel sure, an entirely erroneous one.

We do not hesitate to take the position that it is right for a few animals to suffer briefly once a year, in order to impress a physiological truth. As to the pains inflicted in the laboratory, they are not caused needlessly or unintelligently. Our physiologists are humane men, and there has been no good reason shown by Dr. Leffingwell why their science should be crippled by legal restrictions. These are the grounds we took in our editorial review, and we do not find anything in Dr. Leffingwell's criticisms which weakens the position. We have not space to answer these criticisms in detail. We should say, however, that the general impression given by the article in *Scribner's*, is, that vivisection does not pay very well; and this impression would be particularly strong with the laity, who could appreciate the extended testimony to the cruelty and uselessness of vivisection, much more than the brief and isolated assurances of its scientific value. As regards Dr. Leffingwell's citations of authorities against the practical value of vivisection, we can only repeat again that it is facts, not opinions, which are wanted on this point. It is a fact that vivisection gave us strychnine and chloral. To offer in rebuttal the selected opinions of certain eminent men, that vivisection never gave us anything, is no argument, except perhaps with the laity, to whom Dr. Leffingwell's article particularly appeals. In regard to the value of vivisection to therapeutics, we did not say that it had given us "only a mass of questionable theories," and the putting such opinion so directly into our mouths savors of a carelessness which we had, perhaps, a right to expect, but which is hardly the more excusable on that account. Dr. Leffingwell's proposition to the effect that painful experimentation in the past twenty-five years has furnished the profession with no popular remedy for disease, it seems to us, is neither ingenuous nor to the point. If the proposition were true, it would not follow that painful experimentation was of no therapeutical use. The question that it is desirable to settle, is, whether vivisection, painful or painless, has been, or is likely to be of practical therapeutical value. That it has been, and is to be of very great value is what we asserted, and what we believe was sufficiently proved in the editorial under discussion. It certainly is a fact that vivisection has in the past twenty-five years contributed important remedial agents and methods to medicine and surgery. Even a slight acquaintance with other documents than those furnished by antivivisection societies would have informed our esteemed correspondent in this regard.

We beg, in conclusion, to assure Dr. Leffingwell, again, of our full confidence in the honesty of his purpose. If we have spoken too emphatically on any point, it is because we feel so strongly that any law to regulate vivisection is uncalled for, and would prove here, as it has in England, an injury to the progress of physiological science.—Editor.]

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ON THE RELATION OF FOOD TO LIFE.

To the Editor of The Medical Record.

Sir:—When Dr. Tanner announced his ability to fast forty days he was called a monomaniac; when he undertook to give a practical demonstration of his assertion he was denounced as a charlatan. Now, when there is no reason to think that he is an impostor or fool, his experiment is called barbarous, proving nothing and belonging to the class of exhibitions that should be suppressed by civil authorities. These are the only comments so far advanced by the medical profession on the subject of Dr. Tanner's "Starvation Exhibition." The last one strongly reminds us of Henry Bergh's argument against vivisection, and proves only that the subject is not properly understood by the party who expressed it. There is no doubt that the present experiment is honestly conducted, and that the period of fasting will exceed all expectations. That the present case is not a unique one is proved by a number of well authenticated cases in the past, but this does not remove the unnatural character of such a prolonged abstinence from food, which stands in an apparent contradiction to our current ideas of life. As there is nothing so provoking as to see the person persisting to live when condemned by the whole faculty to die, as is the case with Dr. Tanner, let us examine where the miscalculation was made, and what is to be learned by the present experiment and similar ones to come, as there is a fair prospect of a fasting boom. The main argument against the success of Dr. Tanner's strength is the same which is used to disprove the possibility of perpetual motion. To live means to consume. During fasting, consumption is carried on at the expense of the tissues, which can go on but a limited period of time, much shorter than that already covered by Tanner, when death results from exhaustion of the resources of life. This reasoning has a grain of truth, but essentially is a false one. Although life is intimately connected with the consumption of food, or of tissues in case of fasting, the mistake consists in assuming that life is the result of consumption, while in reality consumption is only the manifestation of life. If the former were the case how will we explain the fact that life ceases when the material of consumption is still abundant, as is always with animals that die from starvation. The generation of heat, development of secretions, repair of tissues call for a supply which is present in the form of blood, lymph, and tissues, but their quantity is far in excess of the amount that is to be consumed in the course of the time the animal lives when deprived of food. We must look for the cause of death from starvation in some direction other than the failure of materials to satisfy the above-named needs. It is sufficient only to notice that partaking of food has a stimulating effect; that the symptoms of starvation show themselves in so-called nervous disorders; that various means having the tendency to stimulate the nervous system make us less dependent upon food; that various individuals require different quantities of nourishment, the conditions of work, etc., being the same. All this would tend to indicate that death from starvation results primarily from the collapse of the nervous system, resulting from its deficient nutrition and stimulation, and not from the cause above mentioned. When food is withdrawn, the length of life will depend upon how long the nervous system can retain its vitality with the minimum of nutrition or stimulation. To properly understand this subject we have also to examine the relation of rest and work to the nervous tissue. Rest is just as necessary to life as food. If the amount of work is pushed beyond a certain limit the same result is produced as when food and rest are withdrawn, namely the function of the nervous system becomes altered or entirely suspended, and its structure breaks down. On the other hand, there exists an intimate co-relation of these three factors—food, rest, and work, as the amount of one determines the amounts of the other two. Is the extent of food and rest required, and of the work that can be accomplished, identical in every given case? Evidently not. As the result of every-day experience we have average quantities for each; but they belong to an ideal, average person which does not exist, and is only a mathematical conception. On both sides of these averages there exists most variable quantities. Recent pedestrian matches showed us how, in some cases, the amount of functional activity of the nervous system can greatly exceed the average level to which it can be pushed with safety. They showed also that the rest required by it can be unnaturally less than that compatible with the life of an average person. Mme. Anderson's exhibitions were exceedingly instructive in demonstrating the possibility of the nervous system not losing its vigor under the most unusual relation of rest to work. If then the nervous system can in some cases retain its vitality under the conditions of rest and work, so unnatural that they would prove fatal to an ordinary individual, why should we wonder if cases present themselves where the usual relation of nutrition and stimulation to the nervous system is similarly deviated from the standard? The latter is too closely allied to the former to doubt its possibility, and the object of Dr. Tanner is to prove it by actual experiment. We can explain such a tolerance to these different extraordinary conditions, by assuming that the functional activity of the nervous tissue of such individuals is followed by the results peculiar to it in a lesser degree than we are accustomed to see in every-day experience, permitting a wider range of activity which is followed by a lesser exhaustion and wear-out, consequently demanding less rest, stimulation, or structural restoration. It is to be regretted only that the profession did not avail itself of such a valuable opportunity to study a question entirely new, and which cannot be studied so well in the laboratory or at the bedside.

Etienne Evetzky, M.D.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending July 24, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro-spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
July 17, 1880.	0	5	22	5	23	36	0	0
July 24, 1880.	0	6	28	4	21	36	0	0

The Forty-Eighth Annual Meeting of the British Medical Association will be held at Cambridge on August 10th, 11th, 12th, and 13th, 1880. *President*, Denis C. O'Connor, C.B., M.D., Professor of Medicine in Queens College, Cork. *President-elect*, G. M. Humphrey, M.D., etc., Professor of Anatomy in the University of Cambridge.

The business of the meeting will be transacted in General Session and Eight Special Sections: on Medicine, Surgery, Obstetric Medicine, Public Medicine, Psychology, Physiology, Pathology, and Ophthalmology. There will be a Subsection on Otology.

There will be an Address in Medicine, by Dr. J. B. Bradbury; an Address in Surgery, by Mr. Timothy Holmes; and an Address in Physiology, by Dr. Michael Foster.

The following subjects have been arranged for discussion in the various sections:

1. *Medicine.*—On Hysterical Anæsthesia, opened by Dr. Bristowe; and on Asthma, introduced by Dr. Andrew Clark.

2. *Surgery.*—On the Treatment of Wounds, by Prof. Lister; and on Stricture of the Urethra, by Sir Henry Thompson.

3. *Obstetric Medicine.*—On Uterine Hæmostatics, by Dr. Atthill; and on the Removal of Uterine Tumors by Abdominal Section, by Mr. Spencer Wells.

4. *Public Medicine.*—On the General Working of the Public Health Administration in Great Britain and Ireland, opened by Dr. Alfred Carpenter and Dr. Francis T. Bond; and on Diseases communicable to Man from Diseased Animals when used as Food, by Mr. Francis T. Vacher and Mr. Edmund J. Lyon.

5. *Psychology.*—On the Influence of Alcohol on the Causation of Insanity.

6. *Physiology.*—Is Urea formed in the Liver? by Professor Gamgee; and on Sleep and Hypnotism, by Professor W. Preyer, of Jena.

7. *Pathology.*—The Influence of Injuries and Morbid Conditions of the Nervous System on Nutrition, by Mr. Jonathan Hutchinson; and on Micro-Organisms: their Relation to Disease, opened by Professor Lister.

8. *Ophthalmology.*—The Nature of Glaucoma: some Points relating to the Perception of Colors, by Professor Donders.

Subsection of Otology.—The Therapeutic Value of Electricity in Ear Diseases, and the Comparative Value of the Various Mechanical Aids to Hearing, with Special Regard to the Several Kinds of Artificial Drumheads, and to those Instruments which Assist Deafnesss, Conducting or Transmitting Sound, either directly or indirectly, to the Organs of Hearing.

The meeting opens in the afternoon with a short service and sermon by the Bishop of Ely. The Annual Address of the President is delivered in the evening. On the subsequent days, the general meetings will be held at 10 A.M., and the Sections at 2 P.M. The evenings are to be devoted to a soirée, a public dinner, and a conversazione. On the 14th there will be several excursions.

Dr. Tanner's Fast.—Dr. Tanner's watchers reported, on July 28th, that he had gone for thirty days without food. His condition during the last seven days has shown no remarkable change. His pulse, temperature, and respirations have continued normal. The dynamometer has registered from 77 to 88 kilogrammes. His personal appearance betrays no marks of suffering; his color is good, and his physical strength sufficient to enable him to walk a little. He has grown weaker, however, takes less exercise, and sleeps or dozes more. The quantity of water drunk and urine voided, with the decrease of weight, are here shown:

	Water drank. oz.	Urine voided.	Sp. gr. of Urine.	Weight.
July 20th........	15	19¾	1006	133½
" 21st..	29	20	1006–8	132½
" 22d	20	19¼	1010–12	131½
" 23d.........	15	19½	1010	131½
" 24th........	13	16	1018–20	130¼
" 25th........	23	9⅞	1012–17	129¾
" 26th........	21	22¼	1010–20	130
Total,	136	126⅝		

Since July 14th he has lost only two pounds.

Starling Medical College, Ohio.—The fees of the Starling Medical College remain for the present at the old figures, $45, instead of $75 as previously stated.

Original Lectures.

LACERATION OF THE CERVIX UTERI.

Twenty-fifth Lecture of the Course of 1880 at Rush Medical College, Chicago.

By R. STANSBURY SUTTON, A.M., M.D.,
PITTSBURG, PA.

(Stenographically reported for The Medical Record.)

Gentlemen:—In entering upon the discussion of lacerations of the cervix uteri, I stated that to Emmet was due the credit of having pointed out the importance of the injury, and of having devised the treatment for its repair. Based upon the correctness of his tables, we stated that nearly thirty-three per cent. of fruitful women, complaining of uterine disease, had laceration of the cervix uteri; that about one-third the labors followed by the discovery of this lesion, were tedious, but that rapid labor (whether it be spontaneous or produced by ergot) would also produce the injury. I cautioned you against the reprehensible practice of irritating the cervix during labor —by rubbing its surface with the finger, or pushing it back over the fœtal head, or of resorting to early rupture of the membranes to save time. I said this accident occurred with rich and poor alike, in the absence of an accoucheur, and in the hands of the most skilful; in cases with forceps and without; and that it was highly probable that laceration in first labors was the rule—spontaneous union of the tissues, in the majority of the cases, occurring during the lying-in period; and that lacerations occurred at the time of miscarriages and criminal abortions. I also called your attention to three points in reference to the subsequent menstruation of women who have unhealed lacerations of the cervix.

If recent, the flow will be "more profuse and irregular;" if the injury is old, and cystic degeneration and atrophy of cervical tissue have occurred, the flow will be "diminished in quantity and be as to time irregular." In cases where the injury is slight, no change in "quantity or time may occur."

Your attention was called to the fact, and the reason why lacerations occurring in the median line, either anterior or posterior, usually heal during the lying-in period; and also in our lectures on vesico-vaginal fistula, to the fact that anterior laceration of the cervix, which is most likely to occur in women with "pendulous abdomens and anterior obliquity of the uterus," might be followed by urinary fistula, when the laceration has extended through the septum and into the bladder. Your attention was also directed to an intractable form of retroversion, due to adhesions, the result of posterior laceration in the median line; also to the importance of cellulitis, a constant result of deep lacerations. The indications of lacerations of the cervix at the time of their occurrence, or during the lying-in period, were also fully discussed.

To-day we have to deal with the subsequent changes, the diagnosis, and the treatment of the injury. The forms of laceration in the median line, whether anterior or posterior, as a rule, heal up, leaving hardly a trace of their former existence. When the laceration is unilateral, as is often the case, it is usually upon the left side, and marks the position of the occiput at the time of the labor. The laceration may be and frequently is bilateral, splitting the cervix from left to right, and extending from the os externus to a point above the vaginal attachment.

Another form is that in which a number of fissures have occurred, and where the healing has not been complete. It is styled by Emmet the stellate variety of the injury. Instead of many fissures, you may have three: two fissures upon one side, and one upon the opposite side. When a laceration of the cervix, bilateral in character, or unilateral either, has gone below the vaginal attachment, nature, unaided, will rarely if ever entirely repair the injury.

In the event of a deep bilateral laceration occurring in labor, what are the changes which take place in the condition of the uterus? Let us trace them. Immediately after the laceration, the lips of the wound spread apart, and the attachment of the vagina slides up on the lateral walls of the cervix; considerable of the support of the vagina to the uterus is destroyed.

When the woman gets upon her feet the uterus is yet heavy; it drops out of its proper plane, descending in the vagina; its axis no longer corresponds to the axis of the superior strait, but deviates toward that of the inferior strait. The split cervix, still soft, becomes flattened out against the posterior vaginal wall, while the posterior lip of the cervix is being crowded into the cul-de-sac of the vagina. and the anterior lip is projected forward toward the ostium vagina.

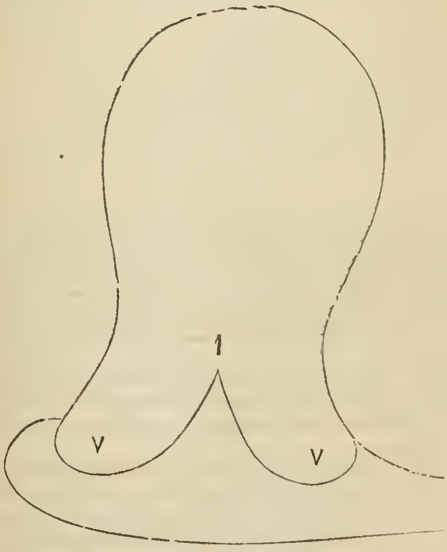

Fig. 1.—V and V represent the margins of a recently lacerated cervix. V, the posterior lip, is crowding backward into the posterior cul-de-sac; V, the anterior lip, forward in the axis of the vagina. 1 represents the site of the temporary intra-cervical os at the bottom or angle of the laceration.

As the subinvoluted uterus descends more and more, its fundus drops backward under the promontory of the sacrum, and we have a retroversion. Its axis now corresponds with that of the outlet of the vagina. If the perineum be lacerated, and its support destroyed, the yet subinvoluted vaginal walls will begin to drop, and, being followed by the heavy uterus, a complete procidentia may result.

This extreme result of the coincidence of these lacerations happily is not frequent. With the change in position, and the impingement of the split cervix on the posterior vaginal wall, the glands of the cervical canal, now exposed to friction, become irritated; they fill up, full of their peculiar secretion, and, bursting, bathe the cervix with a tenacious mucoid and albumenoid secretion. As this swelling progresses, the irritation extends to the submucous tissue of the cervix, which rapidly becomes swollen, and fold after fold of it is rolled out of the cervix, dragging lower and after them tissues from higher points in the cervical canal. Thus fold after fold of the lining membrane is brought forward, until the intra-cervical os now occupies a position about coincident with the original position of the external os. See this diagram. The curved lines represent the advancing folds of everted tissue, and their union in the median line designates the changes in position of the intra-cervical os.

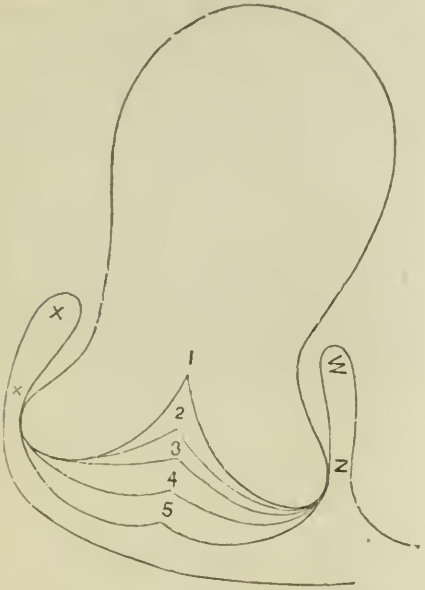

FIG. 2.—This figure represents the false cervix composed of reflected vaginal tissue and outrolled or everted intra-uterine tissue; this outrolling has taken place, as represented by the curved lines forming the angles 1, 2, 3, 4, and 5. These lines indicate the gradual process of eversion. The intra cervical os, point 1, has been rolled out to point 5, where it appears to be the external os; the vaginal attachment, X and Z, now appears by a reduplication to be at points X and Z, so that the cervix appears longer and larger than it actually is.

As the secretion rolls over this surface and irritates it; as the os now becomes so large that the tissues posterior to it become a constricting band, the cervix is kept in a constant state of violent congestion.

All these agencies unite to produce a rapid shedding of the epithelial covering, and finally leave the cervix in a state of erosion. The nerve-filaments which supply the part are also left exposed, and become the source of an irritation which is reflected through the nerve-centres and to various parts of the body, and the patient begins to experience grave nervous disturbance.

Supposing that the uterus has not descended to any great extent, the fact that a laceration exists, does, in many cases, become the cause of sterility. The mucus which plugs up the cervical canal acts as a mechanical barrier to the spermatozoa, and, as Goodell says, the surface, denuded of epithelium, is to the advance of the spermatozoa like a desert to the advance of an army. Irritating discharges from the vagina also pour out in immense quantity and kill the spermatozoa. Occasionally, however, a woman having received a laceration of this kind will go on bearing children for a time. Cervical atrophy is another of the results of the injury. As these glands fill up and burst, the sacs contract. You will feel the remains of these contracted sacs like shot situated under the tissues of the cervix. Owing first to the pressure upon the cervix which the distended glands produce, then owing to the subsequent contraction of the glands themselves, you have atrophy of the cervix, so that the anterior lip, most liable to be thus affected, may be found almost entirely gone.

In a deep bilateral laceration from the subsequent erosion you have more or less bleeding. The menses have become irregular, the woman may bleed profusely, often bleeding prior to her regular time. Her blood is being reduced in this way, and also through the immense amount of cervical discharge which is present. Her digestion is interfered with by the reflex nervous influence, and she will gradually approach a condition of "profound anæmia." If she be by heredity inclined to phthisis, now is the time when it will develop itself. These are some of the unfortunate results of lacerated cervix. There is another grave result. The erosion becomes a nidus for a form of disease fatal in character, and which comes uninvited by heredity. I refer now to epithelioma. In an old and large erosion, when the patient is approaching the climacteric period of life, epithelioma is very apt to develop.

This erosion of a lacerated cervix was what the profession throughout the world treated for ulceration of the uterus before the time of Emmet's discovery. The changes which occur in bilateral lacerations occur also to some extent in unilateral lacerations. If you will let this plate from Emmet's book, Fig. 81, p. 463, represent a unilateral laceration, we will trace the difference in change which takes place after it has occurred. As I told you before, when the laceration extends beyond the vaginal attachment, whether it be a unilateral or a bilateral laceration, cellulitis will occur. If it is unilateral, the cellulitis will be located upon the corresponding side between the folds of the broad ligament. As the broad ligament shortens as a result of the inflammation, the fundus of the uterus is drawn out of the median line toward the diseased side. As the intracervical tissues bulge out between the lips of the laceration against the lateral wall of the vagina, the cervix is pushed to the sound side; thus obliquity of the uterus is established. But the vaginal attachment has, you will observe by the diagram, slid up, so that now, when you look into the vagina, you would suppose that there was the same length of cervix upon the sound as upon the unsound side. When but one side is torn open, you have the rim of the circle of the cervix broken down at that point, and, as Emmet has said, it is much like knocking off the third leg of a stool. There is a tendency to drop down on the wall of the vagina, and thus increase the existing obliquity of the uterus. Now nature always makes an effort to heal these lacerations. In the cleft of a unilateral, as well as in the cleft of a bilateral laceration, granulations are thrown out; as they contract, cicatricial tissue is formed; and thus in every case of laceration you will find in the cleft a plug of cicatricial tissue. This plug acts just like a neuroma, producing an irritation which is spent upon the spinal cord and brain; and thus you have an explanation for the great nervous disturbances which often occur in these cases. How are you to diagnose a case of lacerated cervix? The patient complains of a series of symptoms which I will denote rational symptoms: she has depreciated health;

she has great nervous disturbance; she has backache; she has dragging sensations; she has an irritated bladder; she has probably some rectal disturbance; a line of symptoms which will warrant a physical exploration. Placing the patient upon the back in the lithotomy position, you will pass the index finger of the left hand up to the cervix. You will have the evidence there of a cleft, unilateral or bilateral; you will have the evidence of a large amount of discharge from the cervical canal; you will have the evidence of an enlarged cervix. If you will now place the right hand above the pubic symphisis, and over the fundus of the uterus, you will be able to determine that the cervix is larger than the body of the uterus, whereas, in simple hypertrophy, the body and the neck are usually developed symmetrically. In this case the cervix is flattened; it is spread out; it is larger than the fundus or body. You will now introduce the speculum. What sort of a speculum should you use? If you introduce a cylindrical speculum, you will not be able to discover anything except the probable discharge and erosion. If you use a bivalve speculum, you may probably be able to make a diagnosis through it; but it is better to use a Sims speculum, putting the patient upon her side; then with a pair of small tenacula, reach first for the posterior lip, then for the anterior; drawing them together, try to approximate them. If you are successful, you will see the cervix, which has been large, approach its proper size, and the fissure across its face will be seen. Your diagnosis is now complete in a case of bilateral laceration. Suppose, however, that you have a unilateral laceration to deal with.

You have detected the rent with your finger in the vagina. But through the speculum the two sides of the cervix are apparently of the same length, a condition already explained by the diagram. How are you to positively determine the vaginal attachment? Put your patient in the knee-elbow or knee-chest position. As the perineum is elevated, the air rushes into the vagina, the uterus recedes, thus disclosing the attachment of the vagina. You will also see the fissure extending down to the vaginal attachment, or possibly extending out upon the vaginal wall. This procedure, taught by Emmet, will also enable you always to determine whether you have a case of elongation of the cervix uteri.

Suppose, then, that you have completed the diagnosis, what will be the treatment preparatory to the repair of the injury? If the cellulitis which originally existed still remains in latent form—a condition evidenced by tenderness upon pressure made with the finger in various directions, and sometimes evidenced by the presence of nodules of lymph in the cellular tissue, which can be felt through the vaginal walls—if such a condition exists this must demand your first attention, for if you perform the operation prior to the removal of all this condition you will wake up the original inflammation. The uterus has fallen down, it is heavy, it is dragging, its very position is an interference to its circulation. So you must elevate the uterus, elevate it upon a proper pessary, carrying it up to the normal line, up to that point where the patient no longer complains of backache. If she cannot wear a pessary, you may support the uterus with proper cylinders of cotton, placing one in the cul-de-sac above the cervix and the other below the cervix, having first anteverted the uterus with your finger, and having medicated the cotton, you may, by doing this from day to day, coax her along until she can wear a pessary, when you must feel for the tender points, and, with reference to these points, alter your pessary in such a way that it will not bear upon them. The next thing is to insure perfect cleanliness, and also to relieve the vessels which now engorge and constrict the cervix. To accomplish this your best reliance will be the vaginal douche of hot water. Use large vaginal douches two or three times in the twenty-four hours, putting the patient upon her back and her hips upon a bed-pan. To relieve further this condition of the cervix, puncture the glands with a small tenotomy blade, making a little stab over the surface under which they lie, and then, with the dull wire curette, or a hair-pin held in the dressing-forceps, press out their contents. Having thus emptied the vessels and distended glands, your attention will be directed to the healing of the erosion. Paint its surface once every four or five days with Churchill's tincture of iodine, and in the meantime dress the cervix with glycerole of cotton or tannin, or with an astringent such as powdered alum or powdered persulphate of iron. You will gradually contract and limit the area which it covers. It may be that this erosion holds on, and, in spite of your best efforts, will not be healed. Then you may resort to the trick which Emmet notes in his book—that of drawing together the lips of the laceration, and uniting them temporarily, thus saving the surface from friction. You will go on with these remedies, at the same time giving your patient tonics, regulating her bowels, having her get a moderate amount of rest in a recumbent position, until your case is ready for operation. How shall you operate? You will need instruments and assistants. The night before the operation your woman should have had a purgative. In the morning, an hour before the operation, she should have a copious hot douche, in order to drive the blood out of the cervix as thoroughly as possible. You may place her in one of two positions: either that of Sims, or in an exaggerated lithotomy position—that of Simon. She should be etherized in bed before being placed upon the table. You will require some one to administer the ether, a nurse to hold the speculum, another to assist you, and an extra person to take care of the sponges. An additional assistant is never in the way should he be convenient. It is true that there are many of these cases which you can operate on without ether, but, as a rule, you will find it an advantage, and in all your early operations you will find it a decided advantage to have your patient under the influence of an anæsthetic. The instruments which you will require are these: a Sims speculum, with a wide blade; a pair of small tenacula, with long handles; two pairs of scissors, one with a long curve and one with a short curve; a long-handled bistoury, with a small blade; a number of sponge holders and sponges; a small uterine tourniquet; a double tenaculum, such as this one of Emmet's, for steadying the cervix during the process of denudation.

A pair of needle-forceps such as this, a pair of twisters for twisting the sutures, a pair of rough wire scissors to cut the wire. Having placed your patient in the left lateral position, and having passed the speculum which is held by the nurse, your assistant will steady the cervix with the double tenaculum. Dragging the uterus should be avoided, as the operation, if possible, ought to be done with the uterus *in situ*. You will then take up a small tenaculum, and picking up the tissue carefully, denude, with the scissors, the surfaces to be brought together on either side to restore the cervical canal.

Then having denuded the surfaces alike, and removed the cicatricial tissue in the cleft, the central surface undenuded will represent the new cervical canal. There is the os: now when you bring the denuded surfaces over, one upon the other, they should correspond. Having the surfaces alike, you will take the needle, threaded with a double thread, and secured by a half knot, catch it in front of the eye a short distance, seizing the lip of the cervix with a tenaculum to steady it, and to make counter-pressure you pass the needle through the lip, picking up all the breadth of the nude surface, the needle coming out upon the denuded surface just at the edge of the cervical tissue. Re-enter the needle and pass it through the opposite lip at the corresponding point; you will then attach the silver wire in this manner, and pull the silver wire into the line of the silk thread, and leave it there; you will then make a simple hitch of the silver wire upon itself in this manner, and passing down the loop toward the cervix, give the free end of the wire to the nurse, who will catch it under her hand as she holds the speculum; thus you will pass the stitches at short intervals, less than the eighth of an inch apart, until all the stitches are passed. Before you attempt to close the wound, wait for all oozing of blood to cease, or control it with hot water or alum water, applied with the sponges directly to the denuded surface. The oozing having ceased, or nearly so, you will now seize the hitch loop upon the suture in this manner, then with the wire scissors you will cut away the free wire close to the twister. You will now pass down the shield over the wire; as the shield comes down it approximates the lips of the wound, just as it brings together the arms of the wire suture; now you will begin to twist. Twist down in this manner, until you see that the turn has gone to the lower edge of the shield. If you twist below this point you will cut through or strangulate the tissues so that the sutures will cut out later. Having thus twisted the suture you will carry it over in this manner, at right angles with the tenaculum which replaces the shield.

Again place the heel of the tenaculum on the suture a half inch from the wound, and turn the suture, to which the twister is still attached, short across the tenaculum in that way. Now with a pair of wire scissors you will cut the suture just precisely in this angle, and it will lie smoothly upon the surface as you leave it. It will not turn up from the surface upon which you have placed it. In this manner you will introduce the stitches and twist them and leave them. Having twisted all the sutures and closed up the rent completely, the next point is to put the uterus in proper position; you will therefore antevert the uterus again with your finger. Your patient may now be put to bed.

You will have taken the precaution to have a number of hot bottles between the covers of the bed, in order that your patient may not run the risk of a chill; subdue the light of the room, and leave her with the nurse. In the event of vomiting following the operation, you can usually control it by giving small pieces of ice, or by small doses of lime water. When the effects of the ether have passed off, your patient should begin to take a light but nutritious diet, given in small quantities frequently repeated. The catheter may be required for forty-eight hours, after which time the patient will pass her urine over a bed pan, and after each relief of the bladder the nurse will throw a little warm water into the vagina to remove any drops of urine that may have trickled toward the cervix.

Original Communications.

EXTIRPATION OF KIDNEY.

Death on the Fourth Day After the Operation.

By FRED. LANGE, M.D.,
NEW YORK.

(The specimen was presented to the New York Surgical Society.)

This specimen belongs to a case, in which, after a long observation and due consideration of the symptoms, I felt warranted in performing nephrotomy. The patient died on the fourth day, without a drop of urine being discharged after the operation, and the *post-mortem* proved that those symptoms, which led me to conclude that the other kidney was healthy, induced me to perform an absolutely deadly operation. The case, therefore, despite its unfortunate course, is of great clinical value, besides its pathological interest, and may show that it is more difficult to state that the other kidney is intact, than to ascertain the disease of that organ which we are going to subject to our surgical procedure, the former point being, I think, of decidedly more importance than the latter. The history of the case is the following:

Mrs. K., 47 years of age, a native of Hungary, and from a healthy family, had enjoyed good health until three years ago. She went through seven normal confinements, the last of which was fourteen years ago. Her menses, since that time, have always been regular, though somewhat abundant. Three years ago, when walking on the street, she was attacked by a severe pain in her right lumbar region, so that she had to be carried home. Vomiting and nausea accompanied this attack, which was repeated twice on the same day. She was confined to her bed for four weeks, during which time, every one or two days, these attacks returned, sometimes with such intensity that she fainted. The trouble, by her physician, was taken for a climacteric one. She then enjoyed good health until the beginning of last year, when pain in her right lumbar region appeared again, together with trouble in urinating. This pain appeared in paroxysms, with vomiting and nausea in the beginning, of short duration, and daily or every other or third day. Gradually those paroxysms lasted longer, from two to three hours, and were often of labor-like character. Every slight concussion of the body was apt to produce this pain. The patient was obliged to walk slowly and carefully, and had often the feeling as if her right thigh might be drawn against the belly. She did not consult a physician until eight months ago. He thought her trouble to be caused by an enlarged uterus, and treated her accordingly, with some success, but without giving her entire relief.

In July, 1879, the patient was taken by a long and severe disease, attended with high fever, which continued several weeks, and there was almost perpetual intense pain in her right lumbar region, which occasionally became quite unendurable. She had to lay quiet on her back, because every motion or effort to assume a lateral position exaggerated her pain. There were again often-repeated attacks of vomiting, preceded mostly by a chill and followed by intense heat and perspiration. The patient lost flesh rapidly until about six weeks after the beginning of this disease, when a sudden relief occurred during one such attack of special intensity. She had the feeling as if something bursted in her right side. From that time the intense pain began to cease, her appetite returned, and her general condition improved. Moderate pain set in now and then, but at longer intervals, and gradually disappearing for weeks. The examination of the urine was made after that sudden relief, and a large amount of pus was found in it. I saw the patient in consultation with Dr. Bopp in October, 1879. She then had regained considerably in general health, had no fever, had a fair appetite and suffered no pain if she kept quiet. Every motion, however, caused an uneasy feeling in her right lumbar region, sometimes with pain toward the right thigh. Discharge of urine occurred without pain, and at normal intervals. Urine was of about normal quantity and color, moderately acid reaction immediately after being discharged, but very soon undergoing ammoniacal decomposition. It was uniformly turbid, and had an abundant sediment, mostly consisting of pus. There were also a few red blood-corpuscles, which, however, disappeared a short time afterward and never appeared again. There were numerous epithelia of the bladder, a few epithelia, probably belonging to the pelvis of the kidney, but very constantly numerous epithelia of the kidney, similar to white blood-corpuscles, but a little larger than these, presenting a distinct nucleus ; and finally cells still larger than these of epithelial type, but spherical. They had a sharp contour, presented a large and distinct nucleus. I did not find them every time when examining the urine. Sometimes they were found in groups, and I took them for epithelia of the tubuli recti in a state of soakage ; perhaps elements of a new growth. I never found concretions or crystals. After being filtrated the urine contained a slight trace of albumen. The specific weight was not taken.

The examination of the bladder showed no abnormity. The uterus was a little enlarged and somewhat prolapsed, its vaginal portion being hypertrophied and lacerated ; abdomen high, integument of the belly redundant and fat. In the right lumbar region, and in the space between the short ribs and the crest of the ilium, a deep-seated tumor could be detected by bimanual palpation. It seemed slightly movable, so as to allow a slight ballottement between the hands imposed in front and in the lumbar region. Its consistency seemed mostly resistant, and it remained doubtful whether a part of it, near the crest of the ilium, might not present fluctuation. The surface was irregular, with several flat, hilly prominences. The size of the whole mass, which extended toward the middle line in the depth of the abdominal cavity, was about that of the head of a new-born child. There was apparently no direct contact with the liver, while in front of the tumor the presence of intestines could be made out by percussion. The tumor was oblong ; its greatest diameter directed from the border of the sacro-lumbar muscle toward the umbilicus. It did not immediately touch the crest of the ilium, but was at the distance of about an inch from it. If the patient was lying half way on her left side, putting her right arm above the head, while a pillow was placed under the opposite lumbar region, the tumor caused the walls of the belly to protrude slightly, so as to make a flat prominence in the elongated line. No other abnormity could be detected on palpation or percussion, especially nothing which might have raised the suspicion that the left kidney might be affected. The former history also by no means justified that suspicion.

Regarding the diagnosis, there was no doubt that the tumor just described belonged to the right kidney. That the latter furnished the amount of pus contained in the urine. The slight mobility of the organ seemed to exclude the existence of an extensive perinephritic inflammation, while it pointed, together with the irregular, flat, hilly surface and the shape of the tumor resembling a kidney, to the assumption that the whole process was located within the tissue of the organ itself. In fact, the probability that we had to deal with pyonephrosis, was corroborated by the former history of the case as well as by the symptoms now in existence. The presence of stone seemed improbable as a cause of this process, since stones had never been found in the urine nor were they present in the bladder, though those colicky attacks mentioned pointed to a periodical obstruction of the urinary passage on the right side.

For the present, there being no urgent symptoms, and the patient being in a state of convalescence, I proposed to wait. I then observed the patient through the five following months, seeing her about every two or three weeks. She kept in bed almost constantly, since every exercise was apt to cause severe pain, and at intervals of two or one week one of those colicky attacks occurred. In the meantime there was often a feeling of intense burning in her right side, for which she liked the application of an ice-bag. Altogether the tumor within the next few months became decidedly smaller, the distance between it and the crest of the ilium growing larger. But during those attacks of severe pain it seemed again a little increased, the patient having the feeling of tension and the pain projecting into the right hip and thigh. The urine at those times contained decidedly less pus, but still a considerable amount of it. A partial obstruction at those times seemed therefore to exist. The quantity of urine or the quality of the sediment, as far as its microscopical elements are concerned, never showed any essential alteration.

From about the middle of February those attacks became more frequent, and about the middle of March the patient fell into a feverish state, had severe, persistent pain, extreme tenderness on pressure against the tumor, which seemed to her to be larger, and the first time, heretofore observed, the urine became quite clear, containing only a trifling quantity of sediment. Nothing was more probable than to assume that the ureter now was completely or almost completely obstructed, and that the urine was discharged from the other side. It was furthermore probable, that from the right kidney essentially but the sediments might be furnished, and that it might not have any importance for secretion of urine. because the urine secreted during this attack, like those before, presented the same quantity as in the free intervals, and finally it was probable that the kidney assumed to secrete the urine during this attack must be essentially healthy, because the urine did not present any considerable abnormity. The attack of pain just mentioned ended in a very typical and characteristic manner. First, somewhat more sediment appeared in the urine. The following day the patient felt a little relieved. Twenty-four hours later a considerable mass of pus was discharged and the patient felt again entirely relieved.

She now wanted something decisive done. She had been almost continually in bed during the last year, and I did not think that a spontaneous recovery was within the limits of probability.

I, therefore, proposed an exploratory incision, and in case I should find the organ diseased in such a way that its further presence might include danger to life, I had in view its removal, in the supposition that its condition was such as to allow extirpation. Otherwise, I proposed to open the organ supposed to be in a state of cystic degeneration, and to establish a fistula of the pelvis of the kidney. The operation was performed on the 24th of March. The patient was of short, stout figure, and the interval between last rib and crest of ilium was very narrow, and I did not choose the usual lumbar incision as recommended by Simon. An incision beginning from the edge of the sacro-lumbar muscle, and extending about eight inches in length, about one inch and one-half above the crest of the ilium in oblique direction toward the umbilicus, ending about on the edge of the rectus abdominis. The patient was lying on her left side, with a pillow placed under the lumbar region of that side. After the retroperitoneal space had been laid open I removed a part of the fat, pushed forward the peritoneum and intestines, and proceeded toward the capsule of the kidney. This was opened with the finger, and then a part of the renal substance appeared. Its surface was occupied by flat prominences, with pretty sharp ridges between them, but the tissue offered about normal resistance. I now tried to trace the hilus, and for that purpose I had to pass through a number of strong adhesions, which I loosened slowly and carefully. Immediately underneath it the kidney presented itself in a state of cystic degeneration. The pelvis was apparently not enlarged, nor could I distinguish any calculous matter by the touch. The whole organ seemed to have been somewhat displaced, its lower edge being too near the middle line, while the upper pole was directed outward; perhaps also it was situated altogether a little lower down than normal. The uppermost part I had not laid open yet, it being particularly fixed by adhesions. From that I concluded that it was especially diseased, and being under the impression that the other kidney was healthy, and that the right kidney was accessible to extirpation, though with difficulty, I decided to choose the radical way and to remove the organ. To incise the cystic part and to establish a fistula of the pelvis of the kidney I regarded as being too dangerous, on account of the deep seat of the cystic cavities near the vertebral column. It would have been impossible to secure free discharge of the purulent matter and urine from that spot, and to prevent it from infiltrating the retro-peritoneal tissue. On the other hand, it was rendered doubtful, whether the abnormities in the upper part of the organ, the latter being left, might not be apt to cause trouble by themselves. Finally, there was suggested by one of the colleagues present, that we probably had to deal with a new growth, and in assuming the possibility I hoped to give the patient the best chance at all events in removing the kidney, always being confident of the integrity of the other kidney. The former was slowly and carefully loosened from its environs, mostly by the fingers, here and there stronger adhesions had to be separated with scissors. Almost the whole hand had to be introduced into the wound, to reach the extreme edges of the kidney. Finally the pedicle was tied in four portions by double ligatures, and the organ removed. The wound was thoroughly washed with antiseptic fluid, drainage-tubes were introduced, no sutures applied, and a large antiseptic dressing concluded the operation, which had lasted about one hour and a half. The loss of blood was quite insignificant. The quadratus lumborum had to be cut across half way to allow a free outlet to the secretions.

The patient, after several hours of a collapsed appearance, presented a good condition, complaining merely of pain in her back and right hip. In the afternoon nausea and vomiting occurred several times. Pulse became full and strong, face flushed, slight perspiration all over the body. Not a drop of urine was found in the bladder until her death, which occurred on the fourth day, eighty-four hours after the operation. Temperature never exceeded 100.5° F. in ano. Her pulse on the second and part of the third day was abnormally full and strong, mostly 70 to 80 in number. After the third day patient became restless, a little soporous, without losing consciousness. The pulse became more frequent and weak, and finally she died rapidly in a state of coma, the face being congested until a short time before her death. Vomiting, which had been frequent within the first two days, gradually stopped, and only nausea remained. Respiration became deep and noisy. Believing that the case was one of simple anuria, I tried to stimulate perspiration, but the post-mortem on the fifth day after the operation proved that the removal of the kidney had deprived the patient of her only means of existence.

I lay before you both kidneys. The left one, which was removed by autopsy, consists of several cystic cavities, two of which contained a fluid-like urine; one of about the size of a hen's egg was filled with thick, cheesy matter. There is no trace of tissue of the kidney left. The pelvis of the kidney is entirely obliterated, and so is the ureter. Probably, for a number of years, no urine has been secreted from this organ. The disease which caused this degeneration might have occurred in the patient's earliest childhood, at least she could not remember having had any trouble in this side. The organ was at its normal place, and although cystic, it was only slightly increased in size, and its shape was not materially changed from the normal. The other kidney, the right one, which had been removed by operation, was about double the size of a normal one, and is now much smaller than at the time of the operation when it was filled with blood. It has been preserved in Wickersheimer solution, and shows pretty well its original coloring, but has become decidedly softer.

In a longitudinal section you see that it consists essentially of two parts: one, embracing about the upper two-thirds, is solid, presenting tissue of the kidney in a state of hypertrophy, measuring from two to three centimetres in height. The uppermost edge has a very irregular surface, and here the tissue is scattered with small knot-like infiltrations, measuring from several millimetres to one centimetre in size. A part of this tissue has been removed for microscopical examination. All those spots seem to be beginning abscesses. Some of them present a yellowish purulent appearance; others a more recent infiltration. The pelvis of the kidney, as far as it belongs to these upper two-thirds, presents a normal appearance. The lower third of the kidney is composed of a number of cysts, the largest having about the size of small hen's eggs. Those cysts contained urine and pus, and seemed not to have any connection with the pelvis. But a careful examination shows that there exist several narrow canals leading to the pelvis. You see one here. It seems to be covered with mucous membrane, and contains a number of small, irregular-shaped concretions. A large number of these concretions were present in the cysts themselves, the largest having about the size of a small pea. Evidently, those cystic cavities represent the substitute for the tissue of the kidney itself which has been destroyed by suppuration. The calices of the pelvis belonging to the pyramids affected in that manner are shrunken or obliterated, leaving here and there those narrow communications with the other part of the pelvis. The spot where the ureter starts from the pelvis is also abnormally narrowed, apparently by formation of a cicatrix, but it seemed to have been sufficiently wide to secure a perpetual outlet for the urine discharged, since its quantity never presented any considerable changes. The alterations in the upper part of the kidney may be due, I think, to the same process which has so far changed the lower third into a cystic one, but in an earlier stage.

I omitted, in making the diagnosis before the operation, to palpate for the other kidney through the rectum. The result of this examination might probably, have corroborated my opinion about this organ, since it was present at its normal place, and in about normal shape and size. I had it immediately under my finger at the moment of the autopsy, and still was not able to decide about its diseased state before I had removed it.

I am, however, sorry not to have tried the catheterism of the ureter. Post-mortem was allowed only with reference to the kidneys, and the bladder, therefore, was not seen; so I am unable to say whether or not the ureter was obliterated at its entrance into the bladder as it was in its uppermost part near the pelvis. In a future case I would not omit to try this means of diagnosis, though I think that some experience in its execution must be necessary to have it so sure as to make the whole surgical procedure dependent upon it.

In my case I think an exploratory lumbar incision on the left side would have been the safest way to make out the diagnosis as far as the kidney of that side was concerned.

Regarding the attacks of pain in the right side, there is, I think, no doubt that they were caused by retention of the purulent fluid within the cysts; perhaps in consequence of obstruction of their outlets by those small concretions. The latter I never found in the sediment of the urine.

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The Horrors of Vivisection.—The total number of vivisections in England and Wales, during the year 1879, was 270. Of these the number of experiments "in which," to use the language of the report, "there is reason to believe that some material suffering was caused," was about twenty-five. Of these twenty-five, fifteen were cases in which disease followed the inoculation of infectious matter, but in which no painful operation was performed; and ten were experiments upon as many frogs, in which an incision of the skin was required for the introduction of a medicinal substance.

To endeavor to abate the barbarities indicated above, a meeting of the International Association for the Total Suppression of Vivisection took place a short time ago. Earls, and knights, and marquises and like rubbish, who spend their summers running foxes out of breath and then shooting them, met and passed various resolutions for the furtherance of their cause. It is beautiful to think how much tenderness the sufferings of ten frogs can awaken.

THE LIGATION OF HEMORRHOIDAL TUMORS.

By WILLIAM BODENHAMER, A.M., M.D.,

NEW YORK.

The great antiquity of this operation, antedating as it does the birth of the Saviour of the world four hundred years, fills us with surprise, and claims our admiration in that it has come down to us with the experience of at least twenty-three centuries, with so little subsequent changes; and this fact alone is a sufficient plea for presenting its early history here. Among the multitudinous therapeutic measures which have been devised and adopted from time to time during this long period for the treatment of hemorrhoids, all of which have had their ups and downs in perpetual fluctuation of commendation and condemnation, ligation has stood the test of ages, and still maintains its superiority over all other methods for the removal of internal hemorrhoidal tumors, as being more simple, safe, rational, and effectual, and as having, at the present day, the recommendation, the advocacy, and the endorsement, with but few exceptions, of all the leading surgeons of Europe and America.

The use of the ligature as a therapeutic resource in the treatment of hemorrhoidal tumors I have dated back to the dawn of the Grecian era, or time of Hippocrates, the great physician of antiquity, who used it as one of his measures for removing such tumors. He directs that hemorrhoids should be transfixed by a needle and tied with a very thick woollen thread, for thus, says he, the cure will be the more certain. Whether the meaning of Hippocrates is that the needle traversing the tumor was to be armed with the ligature and the two halves of it tied separately, as is now sometimes the practice, or whether the needle was to be used unharmed, merely as a pin to transfix and hold the tumor in place, in order to facilitate its ligation, has given rise to some doubt. It seems, however, evident enough that Hippocrates in his description of the operation for trichiasis directs that in that operation the needle must be armed with the ligature, and then concludes by saying that hemorrhoids should be treated in like manner —that is, as must be inferred from his language, that the tumors should be transfixed by the needle armed with the ligature, as in the operation for trichiasis.* Galen particularly recommends the ligature in the treatment of hemorrhoidal tumors. After the tumor has been ligated as directed by Hippocrates, he advises that it be excised outside of the ligature.† Paulus Æginetae recommends the ligation of hemorrhoidal tumors. Previous to the operation he directs that the bowels should be evacuated by repeated clysters, in order to irritate the anus and render it disposed to eversion, and the rectum to protrusion. He then directs the patient to be placed upon his back, in a clear light, and a very thick thread to be passed round the lips of each hemorrhoidal tumor, leaving one as an outlet to the superfluous blood, for so Hippocrates directs.‡ Celsus advises the use of the ligature in certain cases. He says: if the head of the varix or hemorrhoid be small and have a slender base, it should be tied or ligated a little above the part where it is attached to the anus. When the hemorrhoid is very large, with a broad base, Celsus advises that it be taken hold of by one or two hooks and excised a little above the base; neither must any part of the head be left, nor any part of the anus be taken away. This may be accomplished by not drawing the hooks either too much or too little. When the excision has been made, a needle must be passed through the orifice of the vein or amputated varix, and below this a ligature must be applied.[*] Celsus doubtless has reference here to the entero-external hemorrhoids, those situated about the verge of the anus, partly within and partly without, and covered by muco-cutaneous tissues. His graphic directions for ligating and excising such tumors, and his precautionary advice in order to avoid unnecessary pains, subsequent cicatricial contractions of the anus, and hemorrhage, are most strikingly proper and judicious. Albucasis, in the treatment of hemorrhoidal tumors, preferred excision and burning; but if the patient objected, he then had recourse to ligation. The base of the tumors was to be transfixed by a needle armed with a ligature and securely tied.[†] Rhazes, the great Arabian physician of the tenth century, advocated the ligation of hemorrhoidal tumors.[‡] Haly Abbas, another great Arabian physician, approved of either the excision or the ligation of hemorrhoidal tumors, according to circumstances.[§]

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* De Ratione Victus in Morbus Acutis. Liber.—Hippocratis Opera Omnia. Graecè et Latinè, ab Anutio Foesio. Tome 1, p. 466. Genevae, 1657. Folio.

† Libri Isagogici, et Decompositione Medicamentorum Localium. Lib. ix. Galeni, Opera Omnia Graecè et Latinè, a Kühn. Lipsiae, 1833. In 8vo.

‡ Libri Septem. Graecè et Latinè. Lib. vi., cap. 79. Basilae, 1532. Folio.

I could here multiply the ancient authorities who employed and recommended the ligature for the removal of hemorrhoidal tumors, but deem it unnecessary. I will now cite a few authorities nearer our own time.

Heister always employed and recommended the ligature for the removal of hemorrhoidal tumors.[‖] Mr. Pott always preferred ligation to any other method of removing hemorrhoidal tumors.[¶] It is well known how decided Sir Astley Cooper was in his condemnation of excision, and in his advocacy of the safety and superiority of ligation, for the removal of hemorrhoidal tumors.[**] Mr. Howship says: "A strong circumstance in favor of the ligature I consider to be the following: by the ligature a certain degree of inflammation is sure to take place, with considerable tumefaction about the parts, and consequent effusion of lymph into the surrounding cellular texture. The tumors mortify, and the inflammation and swelling subside, but a permanent consolidation of structure is the result. The effused lymph is only partially reabsorbed, and the parts in which the disease naturally forms itself are thus rendered less liable to give way than they were originally. Where, on the contrary, the knife has been employed, scarcely any inflammation follows. The disturbance to the parts by excision is comparatively trifling, and the hemorrhage being always considerable, must, in proportion, diminish any tendency to inflame. The parts cannot, therefore, by this as by the other mode of operating, be left in a state of greater security than they were originally."[††] Sir Charles Bell says: "The operation for hemorrhoidal tumors by the scissors or the knife is incomplete unless the whole diseased parts are taken away, and the extremity of the rectum consolidated by inflammation. This intention is best fulfilled by the use of the ligature, which is the best method of exciting the necessary inflammation, and is the safest and least inconvenient of all known methods."[*] Sir Benjamin C. Brodie, when speaking of the ligation of hemorrhoidal tumors, says: "I conceive that it is not only one of the most effectual, but one of the safest operations in surgery."[†] The late and lamented Dr. Bushe of our city, preferred the ligation of hemorrhoidal tumors to any other method. He says: "I have now performed it, I am sure, upwards of a hundred times, and I have never seen a bad symptom follow it."[‡] Mr. Syme, on the ligation of hemorrhoids, says: "I feel warranted, after very extensive employment of the ligature, to state that it may be used without the slightest risk of any serious consequence. Indeed, in the whole course of my practice, I never met a case which either terminated fatally, or threatened to do so, when the ligature simply was employed."[§] Mr. Quain, with great success and satisfaction, always employed the ligature for the removal of hemorrhoidal tumors.[‖] Mr. Curling prefers ligating hemorrhoidal tumors. He says: "After a lengthened experience I can state that, with one exception, no fatal case of operation by ligature has occurred either in my private or in my public practice."[¶]

Inasmuch as the ligation of internal hemorrhoidal tumors is established upon as firm a basis as any other operation in surgery, I do not deem it necessary to present any additional evidence of this fact, besides that of the eminent authorities I have already given. I could, however, name as many equally distinguished surgeons in our own country, who are also just as strongly in favor of the same operation. So far as I myself am concerned, I can truly say that, having been in the constant practice for thirty-five years of removing hemorrhoidal tumors almost exclusively by the silk ligature, I have necessarily acquired some knowledge in relation to the operation. In my opinion, if it is judiciously performed, it is the mildest, safest, most certain, and most effectual of all known methods, and this, as I have already shown, is the settled conviction of the profession at large.

THE COMMON METHOD.

The prevailing method of ligating hemorroidal tumors is as follows: after the patient has completely evacuated the rectum by means of an aperient or relaxing enema, or by both, and has by straining efforts protruded the tumors as much as possible, each tumor is seized by either tenaculum or forceps and drawn down fully out of the anus, and close to the base of the tumor thus drawn down a stout ligature of silk, of gut, or hempen cord, is applied, and then the same drawn and tied with a double knot as tightly as can be; or a curved needle, armed with a double ligature, is passed through the base of each tumor, so as to divide it into two, and the cords tied as tightly as possible on each side. If the tumor or tumors are covered with skin, this is incised upon the circle which is to receive the ligature. When all the tumors are thus tied, they are returned within the anus, and an anodyne enema administered, and the patient required, in the meantime, to maintain the horizontal posture, to live on meagre diet, and to avoid having any fæcal evacuation for a few days. Sometimes, after ligating the tumors, especially if large, they are excised immediately outside of the ligature. This, in short, is the process usually practised at the present day in the ligation of hemorrhoidal tumors.

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[*] De Medicina. Lib, vii , cap. 30.

[†] De Chirurgia. Lib. ii., cap. 81. Argentorati, 1532. Folio.

[‡] Continent. Lib. xxiv. Basileae, 1544. Folio.

[§] Opera Medico-Practica. Lib. ix., cap. 61.

[‖] Institutiones Chirurgical. Tome 11, pars 2, sec. v., cap. 166. Amstelaedami. 1739. In 4to.

[¶] The Chirurgical Works. Edited by Sir James Earle. Vol. ii., p. 407. Philadelphia, 1819. In 8vo.

[**] Lectures on Surgery. Edited by Mr. Frederick Tyrrell. P. 297. Philadelphia, 1839. In imp. 8vo.

[††] Practical Observations in Surgery and Morbid Anatomy, p. 312. London, 1816. In 8vo.

[*] A System of Operative Surgery. Vol. i., p. 98. Hartford, 1812. In imp. 8vo.

[†] Clinical Lectures on Surgery. Lecture XXXV., p. 317. Philadelphia, 1846. In 8vo.

[‡] A Treatise on the Malformations, Injuries, and Diseases of the Rectum and Anus, p. 187. New York, 1837. In 8vo.

[§] On Diseases of the Rectum. Third edition, p. 81. Edinburgh, 1854 In 8vo.

[‖] The Diseases of the Rectum. Second edition, p. 22. New York, 1855. In 12mo.

[¶] Observations on the Diseases of the Rectum, Fourth edition, p. 63. London, 1876, In 8vo.

The greatest objection usually urged against the operation of ligating hemorrhoidal tumors, especially by those who consider all such as veritable varices, is the liability of the operation to produce phlebitis or pyæmia. This danger, in my opinion, however, has been, and still is, greatly exaggerated; of the fatal cases heretofore reported, the most of them were never verified by a *post-mortem* examination; consequently are deserving of but little confidence. Whilst the operation is attended with less danger than any other for the removal of hemorrhoids, still, it must be borne in mind that it is not entirely exempt from danger. Many also object to the usual operation, as now performed, on account of the severe pain which follows and continues for some considerable time, and thus hazarding tetanus, and to the confinement to bed or room for several days.

I believe, when phlebitis or pyæmia follows the operation, it is entirely referable to the previous and present bad state of the patient's general health, to his not having been at all a proper or a fit subject for it. When extreme pain follows the operation, causing great distress and suffering, and endangering tetanus, it is generally owing to the tumors having been in an irritable or inflamed condition when they were ligated, to the unsuitableness of the ligature, or the injudicious manner in which it had been placed upon the tumors. I have performed the operation in thousands of instances, and have yet to encounter the first serious accident.

In order, therefore, to guard against the dangers spoken of, the surgeon should never perform the operation without first making strict inquiry respecting the remote and the proximate causes of the hemorrhoids, and the previous and present condition of the patient's health otherwise. Should he find the patient suffering from organic disease of the lungs, the liver, the kidneys, the bladder, the uterus, etc.; or should he find the patient with a broken-down constitution from any cause, or in an anæmic or excitable state, or passing albuminous urine, he should hesitate to operate until the patient's condition was so improved, if possible, by proper treatment, as to justify it.

The danger is that, in some of the instances named, the blood, by being impaired or impoverished, by long disease, by miasmatic poisoning, by hemorrhages, or by any other cause, has lost its natural power of coagulation—hence pus or any other vitiated fluids find a much more ready admission into the circulation. It has been demonstrated that the coagulating power of the blood is the most efficient barrier, and the most effectual means, by which pus or any other foreign matter is prevented from entering into the circulation and producing inflammation of the veins, or blood-poisoning. A coagulum, as a general rule, will completely circumscribe purulent matter; indeed, under ordinary circumstances, such matter cannot circulate in blood-vessels, in consequence of its power of determining the coagulation of the first portions of the normal blood with which it comes in contact.

In consequence of several obvious objections which were continually being made against the common method of ligating hemorrhoids, I was led, a number of years ago, to carefully investigate the subject, with a view, if possible, to remove some of the objectionable features of it, or so to modify it as to make it less objectionable, without, at the same time, rendering it any less efficacious in the complete removal of the tumors. I first began by making some experiments upon both internal and external hemorrhoidal tumors when in a quiescent state, expressly with a view to ascertain whether any one point or portion of the tumor was more sensitive than any other, and more especially whether the mucous membrane, or other tissue from which such tumor proceeded, was more or less sensitive than the tumor itself or its covering. I found that the most sensitive part of the tumor was at its base, or at its immediate point of attachment; consequently I have ever since, in operating, been very careful so to adjust the ligature as not to tie it too close to the base, and that nothing but the tumor itself should be inclosed in its grasp. I also found that the lining membrane of the rectum, or other tissue to which the tumor is attached, is very much more sensitive than any part of the tumor itself. Now the question naturally arises, what is the cause of this difference in the sensibility of the natural textures from which the tumor proceeds and those of the tumor or foreign growth itself? The most rational inference which occurs to my mind at present is, that the former are more abundantly supplied with nerves and nervous influence than the latter. Be this as it may, however, the fact is as I have stated it, and it is in the power of any student to verify it. But on this, as on many other points of pathology and physiology, we are sometimes better acquainted with the *quo* than with the *quomodo;* in other words, we know the facts, but we cannot well explain them. My researches on this subject have plainly taught me that, so far as the natural tissues are concerned, the fine and delicate skin immediately without the anal orifice is the most sensitive; that the muco-cutaneous coat immediately within the anal orifice is next in point of sensibility, and that the mucous membrane of the rectum is the least sensitive of the three. I have, however, found the mucous membrane of the rectum much more sensitive than the mucous membrane covering the tumor. This must not be forgotten. Indeed, the foreign body and its covering, unless entirely external and covered with true skin, are much less sensitive than the three natural textures previously named.

THE IMPROVED METHOD.

I now propose to offer some improvement on the common method of ligating hemorrhoidal tumors, the success of which, in my hands, has been invariable, and warranted by an experience of many years.

According to the improved method of operating, the tumor to be ligated is never, as a general rule, seized by tenaculum nor forceps and pulled down; for if this is done a portion of the elastic mucous membrane of the rectum, to which the tumor adheres, also comes down with it, and is therefore almost certain to be included in the grasp of the ligature. Hence the additional pain, the protracted suffering, and the more or lesss ulceration which necessarily follow; for the operator cannot distinguish the true base of the tumor from any other part when drawn down in this manner, for all the parts generally have the same appearance. I always require my patients to extrude the tumors simply by defecating efforts, or by the efforts produced by means of an aperient or a relaxing enema. If one or all these means should fail to protrude the tumors, I employ a bivalve anal speculum, introducing and arranging it in such manner that the tumor which I design to ligate should fall between its blades; then, with suitable instruments, it can be ligated within the canal just as easily as if it were extruded or external. I scarcely ever ligate more than one tumor at one time, and I never employ a thick and stout silk or hempen cord with a hard twist in it, such as saddler's silk or the linen thread of the sewing-machine, which is almost as hard and stiff as silver wire; but I use fine soft silk ligature, well waxed, with scarcely any twist in it, somewhat like floss or dentist's silk. For, it may be observed, in proportion to the large size, the hardness and the stiffness of the ligature, will be the increased pain it will occasion, and the length of time it will take the tumor to slough off. As before observed, I am careful so to adjust the ligature as to exclude everything but the foreign body itself, and only make the ligature sufficiently tight to cut off the circulation—nothing more nor less. This fact can be known and adjudged by the appearance of the tumor whilst the ligature is being tightened. I am also very careful not to place the ligature very close to the base of the tumor, or place of its attachment, as this produces more pain and is not any more effectual in removing the whole of it. The small portion of the base of the tumor, below the grasp of the ligature, will sooner or later slough off or disappear by some other process, as I always witness. Indeed, the inflammation excited by the ligature in the contiguous parts is doubtless sufficient of itself to obliterate, by condensation of the surrounding cellular structure, any remaining portion of the tumor.

When the tumor is very large, or too large for one ligature, I divide it into two or more sections, according to its size, and multiply the ligatures, including but a small portion of the tumor in each. This is done by arming a suitably curved needle with a double ligature, passing it through the tumor a little above its base, and if necessary, repassing it, and tying each ligature separately, thus including in the stitches every part of the tumor, and underlaying it as it were, with a double uninterrupted suture. When any part of the tumor is covered with skin, or muco-cutaneous tissue, I usually incise this upon the same circle which is to receive the ligature afterward, by which more or less suffering is avoided. I sometimes, when the tumor is entirely external and covered with skin, and objection made to the knife or curved scissors, ligate subcutaneously, which causes it to shrivel and gradually to disappear. By this operation the integument, of course, is not interfered with, and much pain, suffering and inconvenience from the ligature otherwise applied, are avoided. The subcutaneous ligation of external hemorrhoids consists in encircling the base of the tumor with a ligature passed immediately beneath the skin. This is accomplished by the use of a proper needle, describing a considerable curve, and with it to puncture the tumor at a suitable place, and to carry a ligature subcutaneously half round the same. The needle is then to be brought out at this point, and re-introduced at the point of exit and carried round the other half to the original point of entrance, and then tied. If the tumor is large, it may be divided into two or more sections, as before described. This is the operation which is sometimes employed for the removal of nævi.

The Modus Operandi of the Ligature.—The ligature removes the tumor or foreign growth by two processes: first, by depriving it of its due supply of blood, and secondly, by making its way through the base of the tumor by ulcerative absorption. Now, while it is obvious that the first of these effects may be accomplished by the application of the finest and softest ligature, it is equally clear that the larger and harder the substance of the ligature is, the longer the time it will take, and the more extensive the inflammation, pain or irritation it will produce, in accomplishing the second. I repeat, then, that when a stout silk, hempen or linen cord is used as a ligature, which is comparatively a rough substance, especially when hard twisted, it will by its mechanical attrition, produce more inflammation and pain, and continue them longer than when the ligature is finer, softer, not much twisted, and not drawn too tightly. The ligature, however, must be drawn tight enough to interrupt all kind of circulation and physiological action in the tumor; if this is not accomplished the tumor may not perish, or perish very slowly, and more or less sensibility will remain in it. The desirable end, the complete destruction of the tumor, can be attained, however, without making the ligature as tight as it can be. The amount of strangulation should be just sufficient to arrest the passage of the fluids. The tumor, thus deprived of its vitality, first becomes blue or livid, and then softens, shrinks, and loses its volume, and acts in the same manner as any dead foreign body, which must necessarily come away through the eliminating powers of the system. When the entire physiological circulation of the tumor is suspended for twenty-four hours, the principal object of the operation is attained. After this the final result will be the same, whether the ligature remains on till the tumor drops, comes off accidentally, or is intentionally removed. When there is pain, after a certain period, the pain is not in the tumor itself, but in the contiguous natural textures not included in the grasp of the ligature.

Temporary ligation.—I sometimes employ temporary ligation—that is, suffering the ligature to remain upon the tumor for fifteen or thirty minutes only, and then removing it and replacing the tumor. This method, however, is only suitable in case the tumors are internal, and of a soft and spongy texture, similar to those to which the nitric acid is especially applicable. In examining the tumor a few days after the operation, it will be found to be smaller, and echymosis will be visible in all parts of it; and about the fifth or eighth day it will have entirely disappeared, with scarcely any pain or inconvenience during the whole process.

The proper time to operate.—The best time for the performance of the operation is when the tumors are in a quiescent state. I do not consider it good practice to operate when the tumors are very irritable and inflamed. I am in the habit, when such is the case, of waiting, if possible, until the irritability and inflammation have spontaneously subsided, or have been subdued by appropriate treatment. It often occurs that among several tumors which are in a quiescent state, there may be found one highly sensitive and irritable. This one can be easily distinguished from the rest by its florid appearance, or by its being tense, tender, and painful upon pressure. If the operation is performed when the tumors are irritable or inflamed, the pain and the general suffering will be greatly augmented. To subdue the sensibility, irritability, or inflammation of the tumors, I sometimes apply a solution of the nitrate of silver by means of a camel-hair pencil, and immediately after I apply olive or almond oil to the same. Two or three applications in as many days, are usually sufficient. The solution should be of such strength as not to produce a slough, not to abrade or to injure the surface. All that is required is the sedative power of the caustic, without its injurious effects. If applied of a certain strength, say from ten to fifteen grains of the crystals to one ounce of distilled rose-water, it will diminish the sensibility and irritability in a most remarkable manner. The patient, in the meantime, should live on bland and unirritating diet, and his bowels, if possible, should be relieved by enemata of the infusion of linseed, to which a little castor or olive oil should be added; or, by the use of the following aperient powder, one or two teaspoonfuls of which may be taken in a little water:

℞. Sulphuris loti,
Magnesia calcin.,
Saccholactin.............āā ℥ iv.
Misce et fiat pulvis.

When the tumors, however, are highly inflamed and swollen, as well as all the contiguous parts, to subdue the inflammation and swelling, I apply leeches, if not contra-indicated. They should, however, not be applied on the tumors themselves, but somewhere in the anal region, outside of the tumors. They are especially indicated when the tumors become strangulated, and difficult, if not impossible, at once to return. In such cases I have employed them with the most happy effect, and I am surprised that they are not more frequently employed. Indeed, when applied to the anal region, they are not only valuable in inflamed hemorrhoids, but as a revulsive remedy in many other diseases. It is in consequence of the large number of veins which accompany the arteries and expand around the rectum and anus, and contribute to the formation of the vena-portal system, that the margin of the anus was long since selected as the most proper and most eligible place where leeches produce their greatest effect, in chronic inflammatory affections of the liver, the colon, the rectum, and adjacent parts. Leeching the anal region, as a revulsive measure, was at one time, many years ago, so common in Great Britain that some of the poetic wits of that period immortalized the practice. Butler, in his celebrated satire, pleasantly alludes to this practice in one of the following lines:

"But with moon was more familiar
Than e'er was almanack well-willer;
Her secrets understood so clear,
That some believed he had been there;
Knew when she was in fittest mood
For cutting corns, or letting blood;
When for anointing scabs or itches,
Or to the bum applying leeches."*

Mr. Alexander Brome, the poetical wit and champion of the cavaliers of Charles the First, in one of his songs against the Rump Parliament, in allusion to Cromwell's hunting the members out of the house by military force, sings;

"Our Politique Doctors do us Teach,
That a Blood-sucking Red-coat's as good as a Leech,
To Relieve the Head. if applyed to the Breech.
Which nobody can deny."†

As true hemorrhoidal tumors vary in locality, structure, size, numbers, vascularity, sensibility, etc, so do they require modifications of treatment. Those in which, more than in any others, ligation is more especially indicated, are the internal ones which are florid, soft, and highly vascular, which protrude readily and bleed freely; also those internal ones which are indurated, dark, and with little sensibility, protruding at each evacuation, and attended with a free mucous discharge. Those round and sometimes blue tumors, located at the margin of the anus, and covered partly with mucous, and partly with muco-cutaneous tissue, should, when large, be ligated, after incising that part covered by the latter tissue. When any of these are very small, they may be let alone, but when any of these small ones are hard and painful, they should be punctured with a lancet, and their contents completely let out. Those tumors that are altogether external, or completely without the anus, and covered with skin, should be removed with the knife or curved scissors, or ligated subcutaneously.

I will here observe that the limits of this article will not permit me to draw a parallel between ligation on the one hand, and the several surgical measures now adopted for the removal of hemorrhoidal tumors on the other, such as excision by knife or scissors, écrasement, the actual cautery, the potential cautery; Dupuytren's combination of forceps, scissors, and actual cautery; the same modified by Mr. H. Smith, of London, of clamp and knife or scissors, and actual or potential cautery; M. Amussat's method of clamp and the caustic of Filhos; Houston's method of nitric acid; the galvano-caustic method of Middledorpff; the method of M. Richet of cauterizing the tumor in several sections by means of a peculiar forceps brought to a white heat; the method of forcible dilatation of the anal sphincters: all of which find advocates in able authorities. I must be pardoned, however, for making a few remarks on the method recently introduced, of injecting hemorrhoidal tumors with coagulent, hemostatic and cicatrisant solutions. From the great excitement lately manifested by a few fanatics concerning this method, some were inclined to raise the cry, *Eureka*, or led to believe that it, like Aaron's rod, was destined to swallow up all the other methods. It may be remarked, however, with regard to this new candidate for fame, that, as yet, it has no status in surgery, and it is questionable whether it ever will prove a real benefit to, or an advancement in that science, as it regards a safe and certain remedy in the treatment of hemorrhoids more especially. The profession, in general, are not yet sufficiently acquainted with its *modus operandi*, or in possesion of sufficient data, to pronounce a positive judgment, as to its merits or demerits; but I have no doubt all are quite willing to give it a fair field and wait for results.

I will now attempt to show how the injection of hemorrhoids was first thought of, and the manner in which it was most likely brought about. It is known that the morbid growths termed *nævi* have been treated by injection by some eminent surgeons for the last forty-five years, and it is also known that some hemorrhoidal tumors partake largely of the nævoid structure, or what Mr. John Bell called *aneurism by anastomosis*.* These circumstances, then, gradually and eventually led to the idea of injecting hemorrhoids also, the transition from the one to the other being so very natural and so very simple and easy, that it was, as it were, but a short or an imperceptible step to take.

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* Hudibras, Part II., canto 3.

† The Rump: Or an exact Collection of the Choicest Poems and Songs relating to the Late Times. Vol. II., Part 2, p. 5. London, 1662, in 16mo.

* The Principles of Surgery. Vol. III., p. 283, London, 1826. In 8vo

The injection of nævoid growths was for the first time advocated and executed by Mr. Lloyd, as it appears in a very valuable paper entitled, "Observations on the Treatment of Vascular Nævi Materni," in the *London Medical Gazette* for October 1, 1836. Mr. Lloyd used a syringe fitted with tubes of different sizes. The point of the tube was introduced through the skin at a little distance from the growth and various fluids injected, such as nitric ether, nitric acid, in a solution of six drops of the acid to one drachm of water; solutions of the chloride of lime, sulphate or acetate of zinc, hydrochlorate of ammonia, aromatic spirit of ammonia, or iodide of potassium. A number of other substances were soon added to the list, and among them the perchloride of iron, after M. Malgaigne had introduced that preparation in surgical practice. It subsequently proved to be safer and more effectual as an injection in nævi than almost any other substance. M. Bérard injected nævi with nitric acid, as well as with the acid nitrate of mercury.* Mr. Tyrrell injected nævi with a strong solution of alum, first making a puncture with a lancet and then inserting an Anel's syringe.† If I mistake not, I have read the statement somewhere, that the late and lamented Professor Brainard, of Chicago, recommended the lactate, instead of the perchloride of iron as an injection in nævi, for the reason that the elements of the lactate are normal constituents of the blood.

Now it will be observed, that with but little variation, the same intentions or indications, the same kind of fluid substances, and the same kind of instruments which obtained forty-five years ago in the injection of nævi, now obtain in the injection of hemorrhoids.

So far as my reading extends on the subject, we are indebted to Mr. William Colles, Surgeon to St. Stephen's Hospital, Dublin, for first introducing the practice of injecting hemorrhoidal tumors. Mr. Colles, considering such tumors as vascular growths, resembling nævi in children, or erectile tissue in adults, conceived the idea of treating them by injection in the same manner we do nævi or erectile tissue. He put this conception into practice in a case in 1874, by injecting into the tumors the tincture of the chloride of iron, with the intention of exciting in them a certain amount of inflammation, and secure the coagulation of the blood in the minute vessels composing the growths, and their subsequent absorption. He says: "The hemorrhoids being protruded, I injected about twenty minims of the ordinary tincture of the chloride of iron into each hemorrhoidal tumor by means of a hypodermic syringe, which caused but little pain. Four weeks afterward the section was examined by means of a speculum, and no trace of the tumors could be discovered except three nodules of cuticle, each the size of a shrivelled currant." ‡

I was solely induced to present the subject here, of injecting morbid growths, including hemorrhoidal tumors, in consequence of the late and repeated reports, setting forth that a number of empirics in our country were employing the method of injecting hemorrhoids, and impudently setting up the fraudulent claim that they were the original inventors of this method, and that it owes its paternity exclusively to them. No quack, in my opinion, ever originated the idea of injecting hemorrhoids, or of inventing this practice; if there is such an one, I would like to see his name, and the record. All that these empirics have really done was merely to avail themselves of the numerous experiments and the practical information on this subject already extant, and to appropriate them to their own use. They have, therefore, done nothing whatever in this affair worthy of being commended, appropriated, or imitated.

I do not wish it to be understood that I am wholly opposed to the method of treating hemorrhoids by injection. Far from it, for it may, perhaps, hereafter be found valuable in certain cases; but for the present we have a long-tried, a much safer, a more certain, and a more effectual method in ligation. Five cases within the last two years have come under my own immediate care, in which the treatment by injection had been tried. All of them, in their results, were most unfavorable to the operation. One of them had an anal abscess and fistula to follow the first injection; another had an anal fissure and an abscess as the result of the injections; two had anal fissure of a very aggravated kind, doubtless caused by the escape of the carbolic acid through the orifice of the puncture; and in the fifth and last case, the first injection was followed by extensive sloughing of the cellular membrane in the vicinity of the tumor, and by a persistent hemorrhage. In each of these cases I subsequently removed the tumors by ligation.

In this country we are indebted to Professor J. H. Pooley, of Columbus, Ohio, for the report of three cases of hemorrhoids, which he successfully treated by the injection of carbolic acid.* We are also indebted to Professor E. Andrews, of Chicago, Illinois, for valuable services in collecting statistics relative to the injection of hemorrhoids. He obtained reports of upward of three thousand cases so treated by quacks generally, out of ten thousand cases treated in this country during the last nine years. He says the process of injecting hemorrhoids seemed to have been the invention of a travelling charlatan of Illinois, in 1871.† Drs. Pooley and Andrews have thus earned a strong claim to the thanks of the profession and the community for their useful efforts in endeavoring to take this practice out of the hands of the quacks, and of placing it before the profession upon a sound and scientific basis.

249 MADISON AVENUE, NEW YORK, June 8, 1880.

* * *

SIXTY-SIXTH ANNUAL REPORT OF THE MASSACHUSETTS GENERAL HOSPITAL, 1879.—This report shows that the average census of patients during the year was 163. The whole number of patients admitted during the year was 1,813. The number of out-patients was 18,960. The average cost per week for each patient was $10.54. The total annual expense was $89,295.57. The per cent. of deaths was 7.93.

The report of the *McLean Asylum for the Insane*, which is under the same management with that of the hospital, gives an average census of 157 patients. The admissions during the year were 76. The number discharged cured was 19; the per cent. being 25. During the year Dr. Edward Cowles took charge of the asylum *vice* Dr. Page, resigned. A home for convalescents has been planned, and the work on the building already begun. It is to be situated at Belmont.

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* Bouchut On Diseases of Children. English Version, by Bird, p. 644, London. 1855. In 8vo.

† Op. cit., p. 647.

‡ Dublin Journal of Medical Science, June, 1874.

* Toledo Medical and Surgical Journal, November, 1877.

† New York MEDICAL RECORD, May 10, 1879, p. 451.

QUININE SUBCUTANEOUSLY.

By J. CRESAP McCOY, M.D.,
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VARIOUS salts of quinine and other alkaloids of cinchona have been used hypodermically, the most common of these being in the form of Lente's solution, and latterly the hydrobromide of cinchonidia. All of these, however, have serious objections, viz., the amount of acid used in their preparation, and their low degree of solubility.

Having had bad results from the use of all these preparations, I finally tried "quinia bimuriatica carbamidata," the salt discovered by Drygin.

My observations have been, in the majority of cases, upon patients suffering from a disorder in which the reduction of temperature was desirable, or the specific action of quinine indicated. No attempt was made to obtain patients in good general condition; several were in the later stages of Bright's and phthisis.

Various quantities of the solution were used, and a record kept of the results in each case, which are as follows:

CASE I.—Urethral fever. Two injections, grs. x. each; no redness; after each, temperature fell 1° F.

CASE II.—Intermittent fever (convalescent). One injection, grs. v.; no redness.

CASE III.—Phthisis. One injection, grs. v.; no redness.

CASE IV.—Intermittent fever (convalescent). One injection, grs. v.; no redness.

CASE V.—Intermittent fever. One injection, grs. v.; no redness.

CASE VI.—Carcinoma of stomach; marked cachexia and anæmia. One injection, grs. v.; no redness.

CASE VII.—Phthisis; cavities; marked hectic. One injection, grs. v.; slight redness and tumefaction, disappearing in forty-eight hours.

CASE VIII.—Peritonitis. Very much emaciated. Been confined to bed four months; just recovering from acute general peritonitis, presenting the remains of several abscesses resulting from the use of Magendie; her general condition so bad that when these were opened they refused to close. Three injections, grs. x. each; slight redness after second.

CASE IX.—Pleuro-pneumonia. Temperature 105°. One injection, grs. x.; temperature fell 1° in three hours; no redness.

CASE X.—Empyema. Two injections, grs. v. each; no redness.

CASE XI.—Urethral fever. Three injections, grs. x. each; temperature, at time of giving, from 101° to 102°, falling to normal shortly after administering; no redness.

CASE XII.—Pleuro-pneumonia. One injection, grs. v.; no redness.

CASE XIII.—Pernicious fever (convalescing). Two injections, grs. x. each; no redness; no temperature taken. This case presents the remains of five abscesses following the use of grs. xl. quinine in the form of Lente's solution.

CASE XIV.—Remittent fever. Temperature on admission 106°. Five injections, grs. x. each, immediately. In six hours temperature had fallen to 101°; thoroughly cinchonized at this time; subsequently three injections of grs. xv. each, given at different intervals, none of which produced the slightest redness or tumefaction.

CASE XV.—Pernicious fever. Temperature 108°. Five injections, grs. x. each; temperature not controlled; no redness; death resulting in twenty-four hours.

CASE XVI.—Remittent fever. Temperature 104½°. Six injections, grs. v. each, given at intervals of an hour; cinchonized one hour after last. Six hours after last injection temperature 100°; did not again rise much above this; no redness or tumefaction.

CASE XVII.—Remittent fever, hepatic abscess, subacute pleurisy. Three injections, grs. x. each; slight tumefaction after second, which, however, cleared up readily.

CASE XVIII.—Intermittent fever. Four injections, first two containing grs. xx. each; second two grs. x. each; first was given in one spot without removing the needle, some force being found necessary to accomplish this; the second, given two hours after the first, in two spots, grs. x. each; patient cinchonized one hour after second injection, and remained so for twelve hours; temperature at time of administering, 101°, in six hours, normal; the last two injections were given during convalescence; no induration followed either of these injections, excepting the first, where the large amount was given in one place; this, however, disappeared in seventy-two hours without treatment.

CASE XIX.—Dysentery. Two injections, grs. x. each; no redness; temperature not observed.

CASE XX.—Phthisis; thrombosis veins of thigh. One injection, grs. v.; no redness.

CASE XXI.—Peritonitis. Two injections, grs. x. each; no redness or tumefaction.

CASE XXII.—Pott's disease; child six years old. One injection, grs. v.; no redness.

CASE XXIII.—Malarial anæmia. Two injections, grs. v. each; no redness.

CASE XXIV.—Intermittent fever. Five injections, grs. l. One injection of grs. x., given hourly, until grs. xl. had been given; thoroughly cinchonized after fourth injection. Temperature at time of administering, 102½°, falling to normal in six hours, never rising again; no redness or tumefaction followed either of these injections.

CASE XXV.—Pleurisy. Three injections, grs. v. each; no redness.

CASE XXVI.—Remittent fever. Seven injections, grs. xl., given at one time; cinchonized thoroughly in an hour and a half. Temperature on administering, 102°; in eight hours, 99°, and did not go above this for five days; no redness or tumefaction.

CASE XXVII.—Remittent fever. Four injections, grs. x. each, given at one time; in one hour cinchonized; cinchonism reached its maximum in two hours and a half, began to diminish in four hours; ringing gone in six hours; deafness well marked nine hours after administering; all signs gone at the end of twelve hours; temperature at time of administering, 103½°, reduced nine hours after to 100°. Was treated after this with large doses of quinine internally, temperature never again exceeding 100½°; no redness or tumefaction observed in this case.

CASE XXVIII.—Phthisis. One injection, grs. x.; no redness.

CASE XXIX.—Insolatio comatose. Temperature, 105°; four injections, grs. x. each, immediately; in one hour, temperature, 104°, going down steadily after this; five hours after the injection, temperature 101°; in eighteen hours, normal; patient thoroughly cinchonized and rational three hours after administration; no other treatment adopted, excepting ice-bag to the head; no redness. Discharged cured.

CASE XXX.—Intermittent fever. Seven injections, grs. v. each, at one time; fairly cinchonized in one hour and a half; temperature when administered, 103 ; six hours after, normal; never been above this since; no redness. After treatment, grs. x. quinine internally three times a day.

Case XXXI.—Phthisis. One injection, grs. v.; no redness.

Case XXXII.—Phthisis, subacute pleurisy. One injection, grs. v.; no redness.

Case XXXIII.—Sporadic cholera. One injection, grs. x.; no redness.

Case XXXIV.—Summer diarrhœa. Child ten months old, one injection, gr. j.; no redness.

Case XXXV.—Rheumatism, acute articular. One injection, grs. v.; no redness.

Case XXXVI.—Pernicious anæmia. One injection, grs. v.; no redness.

Case XXXVII.—Carcinoma of uterus. One injection, grs. v.; no redness.

Case XXXVIII.—Intermittent fever. Ten injections, grs. xlv., given at one time; thoroughly cinchonized in one hour, and continued so until eighteen hours after; temperature 102½°; when administered ten hours after, normal; after treatment, grs. xv. quinine internally three times a day.

This salt is a double hydrochlorate (or muriate) of quinia and urea, and is prepared as follows: one equivalent (396.5 parts) of quinia hydrochlorate (muriate) are treated in a porcelain capsule with one equivalent (250 parts) of hydrochloric acid of specific gravity, 1.070, and the solution is filtered. To the filtrate is added one equivalent (60 parts) of pure urea, freed from ammonium sulphate, by recrystallization from *absolute alcohol;* as soon as the urea is dissolved, the liquid is set aside and cooled, so that crystals may form.

After twenty-four hours the latter is transferred to a funnel, drained, washed with very cold distilled water, spread upon plates, and dried at ordinary temperature.

The motherwater is then concentrated and once more allowed to crystallize. The last brown motherwater is allowed to evaporate spontaneously, when all the quinia still present will crystallize out. The final residue is a thick brown syrup, which yields no further crystals, does not freeze even at 18° C., and consists almost entirely of a new chinichine.

Hydrochlorate of quinia and urea crystallizes from hot solutions in hard, white, coalesced, four-sided prisms, without terminal surfaces; on slow evaporation very large crystals are obtained.

At ordinary temperature the salt is soluble in twice its weight of water, forming a dense, straw-yellow solution, unalterable in air. It is neither hygroscopic nor efflorescent; at 70° to 75° C. it melts to a yellowish liquid, hardening on cooling to a yellowish mass; the salt thereby loses ten per cent. of water.

On allowing this to stand exposed to the air, it gradually reabsorbs the lost water, and becomes white again. It is also soluble in alcohol. Ether appears to throw down from this solution a different salt. The salt contains 69 per cent. of pure quinia; the ultimate constitution, however, of the salt has not as yet been determined.

The above investigations consist of one hundred subcutaneous injections of this solution, ranging all the way from two to forty minims each, without a single abscess resulting therefrom, the total number of patients was 38, and total amount of the salt used was 776 grains.

From the above we find that the minimum quantity of the salt necessary to produce cinchonism in an adult malarial case is grs. xxx., grs xl. producing, when given at one time, cinchonism in one hour, the effects lasting about ten hours.

The satisfactory results as shown above make the benefits to be derived from the use of this salt at once apparent, and are: 1st. In the treatment of infantile disorders requiring the use of quinine; 2d. In those cases where cinchonism is desired quickly; 3d. In patients comatose, with a high temperature; 4th. In those cases in which the drug will not be tolerated either by stomach or rectum; 5th. The greater economy, as one-half less is necessary than when given by mouth, and three-quarters less when given by rectum. The solution I use is a transparent liquid of a slightly yellowish hue, of a syrupy consistency, and does not become turbid nor decompose on keeping. It is but slightly acid, and contains the salt in its most soluble form, one minim representing gr. one quinia.

Reports of Hospitals.

COOK COUNTY HOSPITAL, CHICAGO.

Reports of Practice and Peculiarities of Treatment.

Case I.—*Abscess of Liver opening into Pleural Cavity —Death.*

James D. Irish, æt. 50; stone-cutter; admitted to hospital, October 7, 1879; a brother died of phthisis. Was in U. S. regular army for fifteen years, at times being exposed to great hardships and variable temperatures. In 1863 had a very severe attack of inflammatory rheumatism. About the 15th of September last was taken with aching pains through the body and extremities, especially "in the bones," and was forced to take to his bed at once. Had no chill, but an intense fever, an unquenchable thirst, slight cough, burning pain in epigastric region, diarrhœa, the stools were greenish yellow and sometimes nearly black. Previous to patient's admission to hospital these symptoms continued with few remissions.

On admission: temp., 101.8° F.; pulse, 104; resp., 32. Anorexia, nausea, vertigo; skin dry and rough, micturition painful; urine normal color, alkaline, spec. grav. 1020—one hundred and two ounces passed in twenty-four hours.

Left lung, normal; heart normal as to rhythm, but somewhat displaced to left and upward; flatness below a line drawn transversely from right nipple to a point one-half inch below scapula; upper part of right chest slightly dull, with suppressed breathing and moist râles; area of hepatic dulness much increased and extending one inch below umbilicus; pressure over infra-mammary, epigastric and hypochondriac regions, gave rise to acute pain; area of splenic dulness increased. Ordered:

℞.	Quinia sulph................	ʒ ss.
	Acidum mur..................	q. s.
	Tr. ferri chloridi, Tr. nucis vom., ...āā	ʒ ij.
	Syr. ....q. s. ad	℥ ij.

M. S.—ʒ i. three times daily.

October 11, P.M.—Pulse 104; temp. 100° F.; resp. 26. Nausea and vomiting; gurgling in right iliac region.

October 13th.—Friction sound over right infra-axillary region. ℞. Emp. cantharides. Absence of respiratory sound in lower part of right lung; high pitched and suppressed breathing in upper portion, with flatness on percussion at apex.

October 14th.—Tenderness over right hypochondriac region. Over infrascapular region is heard a friction sound with both inspiration and expiration.

℞. Mag. sulph.................. ʒ iij.
Aqua cinnam.................. ℥ ij.
M. S.—ʒ ij. night and morning.

October 17th.—Temp. 99½° F.; coughed most of last night; sputa, white, frothy mucus; hepatic tenderness less; slight friction sound occasionally heard in infrascapular region of right side.

October 21st.—Has been gradually failing; temp. for last four days has not exceeded 100° F.; bordering on collapse; hepatic tenderness increased; area of flatness in right apex of thoracic cavity increased.

October 23d.—Sinking; hepatic tenderness increased and extends to right nipple; dyspnœa.

October 24th, A.M.—Temp., 98.1°; resp., 40; pulse, 120; extremely weak and can only whisper; expired about noon.

Post-mortem, thirty-six hours after death.—Pericardial fluid increased in quantity; heart normal; slight bronchitis in upper lobe of right lung and large bronchi of left lung; right upper lobe somewhat œdematous and compressed; lower lobe carnified and firmly adhered to diaphragm; universal adhesions of right lung to parietes of chest, except small spaces near and along sternum and at apex, which spaces were filled and distended with pus; liver very much enlarged, the right lobe containing an enormous abscess, the upper wall of which was formed by the diaphragm, owing to adhesion of liver and diaphragm. Here was an opening by which the abscess and chest-cavities communicated; one and one-half pints of pus was found in apex of chest-cavity, no pus in abdominal cavity; pus in abscess contained masses of sloughed liver-tissue. In and adherent to abscess walls were numerous blood-vessels, very neatly dissected out. In left lobe of liver were a few small abscesses; cavities contained over one and a half gallons of pus; spleen enlarged, but of normal structure; kidneys normal.

CASE II.—*Abscess of Liver, with Pleuro-pneumonia.—Death.*

J. W., æt. 31; miller; admitted to hospital December 5, 1879. His father died of so-called heart disease; his mother, of a lung disease. He has been, as a rule, healthy. Four days before admission he began to have pain in the right hypochondriac region, which, with intervals of ease, countinued until his admission. He also had headache and vertigo.

Notes on admission: Resp., 28; temp., 98.5° F. Pulse slow and feeble. Skin dry, cold, and rough. Tongue flabby, dry, and coated white. Anorexia, thirst, constipation, sleeplessness, dyspnœa at times, pain in right hypochondriac region. Area of liver much enlarged, the lower line extending down a little below the umbilicus. A distinct murmur was heard with first sound of heart at apex and base. Apex-beat one inch to left of nipple, and sound at base best heard in third intercostal space, two inches to left of sternum. Flatness on percussion over lower part of right lung.

Treatment:

℞. Hydr. chlor. mit........... grs. xij.
Chrt. No. iv. Sig.—One at bedtime.

Also: ℞. Fl. ext. apocynum cannabinum.. ʒ iij.
Syr......................q. s. ad ℥ ij.
Sig.—ʒ i. four times daily.

December 13th.—Area of liver dulness diminished in extent, and lower limit more difficult to outline. General condition improving. Urine normal in amount; spec. grav. 1020; acid reaction yellowish brown color; no albumen, sugar, casts, or sediment.

December 15th.—Area of liver dulness but slightly enlarged. Feet somewhat œdematous.

December 16th.—Temperature, 99° F.; resp., 35; Pulse slow and feeble. Feet very œdematous. Complains of pain in region of heart; find roughening of first sound at apex and base; more marked at former point.

December 17th.—Condition same as yesterday.

℞. Tinc. digitalis.............. ʒ iij.
Tr. ferri chloridi............ ʒ iij.
Syr. ....q. s. ad ℥ ij.
Sig.—ʒ i. four times daily.

December 23d.—Gastric distress on taking food. Feet not less œdematous. Dyspnœa.

December 26th.—Resp., 38; temp., 100° F.; pulse, 84 and weak. To have 5 grs. sulph. cinchonidia four times a day.

December 27th.—General condition not improving. Anorexia, thirst, sleeplessness, constipation, œdema reaching above knees. Dyspnœa.

December 29th.—Same.

January 4th, 1880.—Pulse, 100; temp., 100° F.; resp., 38, and dyspnœa marked; flatulency, especially after eating. Stools daily, but scanty and of whitish color. Appetite somewhat improved; thirst and dyspnœa; orthopnœa. Discontinue all previous treatment, except apocynum cannabinum to promote diuresis. To take four co. cath. pills at bedtime; also pepsin and hydrocyanic acid.

January 8th.—Pulse, 92; temp., 100° F.; resp., 36. Better. Flatulency continues. Stools more copious and darker in color. Thirst; dyspnœa; eyes expressive of fear and distress. Orthopnœa.

January 10th.—Tem., 99; pulse, 84; resp., 40. No change.

January 12th.—Anorexia, sleeplessness, flatulence, thirst, wild look, feeble pulse, orthopnœa.

January 16th—No change.

January 17th.—Weaker.

January 18th.—Sank gradually and died.

Post-mortem, eighteen hours after death.—Emaciation extreme. Abdominal cavity filled with yellowish serous fluid. Liver, especially the right lobe, enormously enlarged, and right lobe contained an immense abscess, filled with bloody pus, mixed with much curdy fibrous substance. In and upon the walls of the abscess lay many of the blood-vessels neatly dissected out. Some pleuritis in right thorax. Base of lung firmly adherent to diaphragm and liver. The diaphragm formed the upper wall of the abscess, which wall was very much attenuated.

Heart, spleen, and kidneys normal. Lower lobe of right lung carnified. Upper lobes œdematous. Left lung somewhat œdematous.

CASE III.—*Stricture of Urethra—Diphtheritic Urethritis and Cystitis—Pyelitis—Suppurative Nephritis—Embolism at Bifurcation of Right Pulmonary Artery—Hemorrhagic Infarction of Lower Lobe of Right Lung.*

James D., colored, laborer, æt. 48, married. Admitted to hospital May 5, 1880. A brother died of phthisis; otherwise, family history good. Has been a beer and spirit drinker for 15 or 20 years, and for past 10 or 12 years has become quite dissipated; was brought from a house of ill-fame to the hospital.

Notes on admission.—Quite weak, pulse 120, temperature, 100° F.; resp., 32. Skin dry, tongue coated white. Dyspnœa; slight cough, expectorations of frothy mucus. Has spit blood in small amount for last three or four days; this came on suddenly. Insomnia; bowels free. Incontinence, with retention of urine. Sibilant and sonorous râles heard over the whole chest.

Heart-impulse increased, and roughened sound at apex with systole.

Treatment.—General and supporting.

May 6th, A.M.—Incontinence, with retention, continued. Subcrepitant râles over lower part of right lung.

P.M.—Pulse, 100; temp., 101° F.; resp., 36.

May 7th, A.M.—Pulse, 120; temp., 101° F.; resp., 40. Patient more stupid.

P.M.—Pulse, 128; temp., 102° F.; resp., 44. Perspires freely and sleeps most of time.

May 8th, 8 A.M.—Pulse, 102; temp., 101° F.; resp., 48. Incontinence of urine. Passes fæces unconsciously.

P.M.—Pulse, 128; temp., 103° F.; resp., 52. Unconscious; breathes stertorously, perspires profusely, and has taken no food for 36 hours.

May 9th, A.M.—Pulse, 120; temp., 102° F.; resp., 46. Same.

P.M.—Temp., 103° F. Died.

Post-mortem, 70 hours after death.—Heart much enlarged by hypertrophy and dilatation (size of ox heart), especially the left ventricle. Serous fluid in pericardium normal. No signs of cardiac inflammation; valves normal. Beneath the endocardium, in both ventricles, were seen numerous small grayish white spots which were marked on the papillary muscles and columnæ carnæ, giving a mottled appearance. Under the microscope the muscular striæ were seen to have disappeared and to be replaced by numerous granules, unequal in size in the muscular fibres. The descending aorta was found much dilated and hypertrophied, its elasticity, transversely, entirely gone. It was of a grayish ash color, and here and there were calcareous plates in its walls throughout its entire length. At the bifurcation of the right pulmonary artery was an embolus, which had closed the lower and nearly closed the upper branch; lower lobe was heavy, full of fluid, which appeared to be mostly venous blood.

The upper lobe and whole of left lung, natural, except for a slight bronchitis. Liver and spleen normal. Stricture at membranous portion of the urethra; also 1½ inches from meatus urinarius. Whole surface of the urethra was in state of diphtheritic inflammation. Bladder much dilated and hypertrophied, its walls being about four times their natural thickness. Bladder contained over a pint of urine, and was in an acute state of cystitis. This inflammation had extended up the ureters, which were dilated and hypertrophied. The kidneys also were involved in the inflammatory process, there being numerous small abscesses in the parenchyma of these organs. The abscesses were from one to three lines in diameter and contained pus. There was also marked pyelitis.

A SOCIETY FOR THE PROMOTION OF CREMATION has been organized in St. Louis, Mo.

Progress of Medical Science.

ESTIMATION OF URIC ACID.—Dr. Pavy, at a late meeting of the Royal Medical and Chirurgical Society, described a method of determining readily and with precision the amount of uric acid voided. It was founded upon the reducing action which uric acid, like sugar, exerted upon the oxide of copper. The ordinary form of copper test was most susceptible of application to the purpose; but the ammoniated cupric liquid which the author had recently introduced for the quantitative determination of sugar was perfectly available. With this test the reduced oxide, instead of falling as a precipitate, was held in solution by ammonia, and a simple decoloration of the liquid occurred as the reduction proceeded. It was stated that the results obtained from observation, conducted with known quantities of pure uric acid, so closely harmonized with the expression, that three atoms of oxide of copper were reduced by one atom of uric acid, as to justify this formula being adopted as the basis of calculation for the process. For the determination of the uric acid in a given specimen of urine, the reducing power was taken before and after treatment with acetate of lead. The first total reducing action was in part due to uric acid, and in part to the small amount of sugar which urine naturally contained. The addition of acetate of lead effected a precipitation of the uric acid; and the reducing power now obtained represented the reducing power of the urine, *minus* that of the uric acid which it contained. By the difference between the two determinations, the amount of uric acid was ascertained. Dr. Pavy also stated, that, according to his observation, the figures hitherto given as representing the amount of uric acid present would have to undergo considerable alteration. Results of analyses were read, showing great variations in the relation between the amount of uric acid deposited and the amount present in the urine, and the acidity of the fluid.—*The Brit. Med. Jour.*, March 27, 1880.

ON THE FORAMINA OF MONRO IN MAN AND THE DOMESTIC CAT.—Dr. Burt G. Wilder, of Ithaca, was to have read a paper on this subject, at the recent meeting of the American Medical Association, but owing to the great pressure of business, the paper was withdrawn. We were, however, enabled to obtain it in abstract form, and the following is a résumé of its most important points: The brain might be described as consisting of a series of cavities, single or paired, surrounded by walls of varying thickness. The ventricular arrangement was least obscured in embryo, and in frogs and salamanders, especially menobranchus, where the walls were thin and the cavities large.

The *ventriculi laterales* were always connected with the *ventriculus tertius* by two orifices usually called the *Foramina* of *Monro*. Although known to Galen, Vesalius, and others of the older anatomists, the existence of these foramina was doubted by Haller and others prior to 1783. *Monro*, secundus, figured and described these orifices in 1783, and they had since then been known by his name.

The description usually given of these openings conveyed the idea that they were notches. The following points were brought out by examinations of the cat's brain: The foramen of Monro in the cat appeared as an elongated oval orifice, 0.5 mm. to 1 mm. wide, and 3 to 4 mm. long. Its long axis lying at an angle of about 45° with the longitudinal axis of the brain. Its cephalic border was the corresponding side of the fornix. Its caudal border was the slightly emarginated cephalic end of the corresponding thalamus. The radial end was the line of union of the fornix and thalamus. Its dorsal end corresponded with the points of attachment of the velum to the cephalic end of the habena, and to the fornix, where it began to curve over the thalamus. Each foramen was an orifice with definite boundaries, capable of resisting the pressure required to force a plaster injection from the infundibulum nearly to the tip of the *cornu temporale.* Such plaster casts were shown us, with the constriction at the foramen clearly apparent. The boundaries of the foramen of Monro in man were essentially the same as in the cat.

The narrow cephalic portion of the ventriculus tertius, into which the foramina open, was entitled to a separate name, and *aula* was proposed as an appropiate designation.

From the middle of the fornix, and at a level with the middle of the length of the foramina in all cats examined by Dr. Wilder, a small oval body was found. This might be called the *tuberculum aulæ.* The writer had also found it in the sheep, and evidences of it in a human brain.

THE TREATMENT OF CONSUMPTION.—In a paper on the treatment of pulmonary consumption, Prof. Péter, of Paris, insists strongly on the value of hydrotherapy. He begins with frictions with dry flannel, then passes to rubbing with cloths dipped in aromatic alcohol, cologne water, or vinegar, followed by dry friction for five or six minutes, and finally advances to the use of the cold sponge. The process is repeated twice daily, immediately after rising and before retiring. He believes sponging to be better than the douche, because it is more easily carried out. The chief points to be observed are, to accustom the patient gradually to the use of cold water, and not to prolong the bath too much at first. Prof. Péter divides the sweats of phthisis into three classes, according to their cause, viz. : ordinary night-sweats, which depend not so much on the pulmonary trouble as on the general condition and the tubercular fever, the sweating which follows high evening exacerbations of the fever, and colliquative sweats. To control the first, he recommends especially sponging with vinegar, combined with the usual internal remedies, such as acetate of lead, tannin, etc. Atropine, he considers unreliable. Quinine is useful for the second form, because it controls the fever. For the colliquative sweats, there is no remedy. For the cough, he gives opium and belladonna in small doses ; he orders pills containing one-sixth of a grain of opium, and one-twelfth of a grain of ext. belladonna, and gives, at first, one at a dose, increasing afterward if necessary. When the cough causes vomiting, he gives one or two drops of tincture of opium before meals, with good effects. When the vomiting seems to be due more to dyspepsia than to the cough, he gives a few drops of hydrochloric acid after the meals. In such cases, alcohol in some form is also useful, but it must be given freely. For the diarrhœa, when it is due to simple intestinal catarrh, as is usually the case at the outset of the disease, he employs subnitrate of bismuth, in connection with a carefully regulated diet. When it is due to the use of cod-liver oil, or to the milk or grape cure, the exciting cause must be discontinued, and the stomach, if overloaded, be emptied by an emetic. When it is due to inflammation of the stomach and intestines, he prescribes opium, nitrate of silver, perchloride of iron, etc., and employs also derivatives to the skin. For colliquative diarrhœa there is no remedy. For controlling the expectoration, he has found the balsams, glycerine, and kermes, to be the best remedies. For hæmoptysis, he recommends in the first place, the use of emetics, and explains their action on the theory that they excite a reflex action through the sympathetic, which causes anæmia of the lungs, and controls the hemorrhage. When patients have been greatly reduced by the hæmoptysis, he has found quinine and ergotine useful.—*Allg. med. Cent. Zeit.*, February 25, 1880.

ON THE STRUCTURE AND DEVELOPMENT OF TUBERCLE.—In a paper presented to the *Académie des Sciences*, of Paris, MM. Kiener and Poulet stated as follows the results of their investigations on the structure and development of tubercle in men and animals :

A. *Structure of tubercle in the connective-tissue substances* (serous membranes, pleural and peritoneal new membranes, pia mater, articular, synovial membranes, periosteum, bony marrow, lymphatic glands).

In these tissues tubercle may be simple, conglomerated, or infiltrated. In structure, it presents two types : the cellular and the fibrous.

I. *Cellular tubercle.* 1. *Simple form.*—In its simplest form the tubercle is almost or entirely invisible to the naked eye, and is formed by a sphericle or fusiform enlargement of a blood-vessel, or more rarely of a lymphatic vessel, and by an agglomeration of a number of cells around the enlargement. When the vessel is a capillary with a single coat, the vascular enlargement is formed by hypertrophy and hyperplasia of the endothelial cells of a limited portion of the vessel. These cells undergo a vitreous degeneration and become fused together into a solid cylinder, a transverse section of which presents the appearance of a giant cell, with a border of nuclei (vitreous capillary). Around the swelling a certain number of migratory cells are grouped, along with some fixed connective-tissue cells in a state of hyperplasia ; these latter elements sometimes form around the vessel a complete perithelium, constituted by distinct elements. When the capillary has two or three coats, the enlargement is produced : first by an active proliferation of the endothelial cells, which assume the arrangement of a stratified epithelium, and the most internal of which become fused together into a vitreous mass of a very irregular form, that must also be regarded as a variety of giant cell ; secondly, by the formation of an embryonic connective tissue at the expense of the external tunic. The vessel is thus transformed into a solid cord, a transverse section of which gives the appearance known by the name of *tubercular follicle.*

2. *Conglomerate form.*—The conglomerate tubercle may be larger than a millet-seed, and is formed by an interlacement of capillary vessels that have undergone the changes just described. When such a nodule is separated into its elements, these are found to consist of more or less brittle, nodular, ramified strands, consisting of a fibrous tunic, with opaque and yellowish contents. A section of the nodule reveals an agglomeration of rounded or elongated follicles with epithelioid contents, united together by a fibrillated connective tissue, in which vitreous capillaries are disseminated.

3. *Infiltrated form.*—The infiltrated tubercle is

formed by a granulation tissue provided with a rich network of capillary blood-vessels, most of which contain multiple layers of endothelium, while some are transformed into vitreous cylinders, or into follicular cords.

II. *Fibrous tubercle.*—A series of intermediate forms establish the transition from the cellular to the fibrous tubercle, and show that these different products are due to the same process, which may give rise to different types of alteration of the blood-vessels. According as the progress of the tubercle becomes more chronic, a fibrous neoplasm is substituted for the embryonic neoplasm, the tendency to the development of giant cells becomes less pronounced, the periarteritis predominates over the endarteritis, and even the obstruction of the lumen of the vessel is due more to a fibrous thickening of the internal tunic than to proliferation of the endothelium.

B. *Structure of tubercle in the glandular organs.*—In the glands the interstitial tissue may alone be involved, and the resulting tubercles will then be analogous in structure to those of the connective tissues. Sometimes, however, the glandular element also takes part in the development of the tubercle. Thus, for instance, the seminiferous tubule in the testicle, or the bronchiole in the lung, filled and distended with the products of epithelial proliferation, or with pus, forms a sort of nucleus, around which the interstitial tissue, transformed into an embryonic tissue, presents the characteristic appearances of vascular alteration—vitreous capillaries and follicles.

C. *Development and course of tubercle.*—In the course of development the tubercular neoplasm passes through two phases:

1. *Nodular formation.*—The nodules are developed most frequently in the course of tubular conduits—blood-vessels and lymphatics, glandular tubules and excretory ducts—and are formed partly by proliferation of the endothelial or epithelial cells, and partly by a new formation of embryonic or fibrous connective tissue, at the expense of the external tissue of the conduit.

2 *Hypertrophic and degenerative phase.*—The various anatomical elements of the newly formed embryonic tissue, and the pre-existing elements of the normal tissues, manifest a tendency to undergo hypertrophy, to fuse together to form giant cells. This hypertrophic tendency is manifested by preference, and first shows itself in the epithelial elements of the glands, and the endothelial elements of the vessels. It terminates, finally, in a special vitreous degeneration of these anatomical elements and obliteration of the vessel. This, in its turn, entails fatty degeneration, and irremediable destruction of the tissues.—*Gazette médicale de Paris*, Feb. 28, 1880.

Hyaline Degeneration of the Lymph Glands.—Under Von Recklinghausen's direction, Dr. Wieger, of Strasburg, examined the lymph glands in a large number of cadavers, and found, in thirteen cases, a peculiar alteration of the smallest blood-vessels of the glands. The affected vessels were changed into hyaline tubes, the walls being greatly thickened and the lumen narrowed. In the more advanced cases, spots of calcification were found in the hyaline tissue. The hyaline material was regarded as colloid in nature, and was thought to arise from a cellular infiltration of the vascular walls. The etiological influence at work had been probably circulatory disturbances of dyscrasic or senile origin. In two of the cases there was a diffuse hyaline transformation of the gland substance proper. In both of these cases, multiple nodules were found in different organs, which clinically and anatomically resembled acute tuberculosis very closely. Histological examination, however, showed that these nodules were only small inflammatory foci, which were likewise partly transformed into a homogeneous, hyaline material. The hyaline change in the lymph glands was regarded as the primary lesion in these cases, on account of the large size of the glands and the presumptive age of the affection. The multiple, tubercle-like nodules were thought to be due to metastases.—*Centralblatt für Chirurgie*, March 6, 1880.

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Dr. Tanner's Fast.—Dr. Tanner was in poor condition on August 4th, at date of this writing, and there seemed to be some prospect of his not lasting through the forty days, which end at noon, August 7th. Since a week ago he has failed in strength very noticeably. He has not walked much, but has kept up daily rides. He lies most of the time on his cot, where he curls himself up, and covers himself with blankets. He seems to suffer, at times, from the cold. His face wears an anxious, suffering look; his complexion is dusky and sallow. His eyes are bright, however, and all his senses are acute. His hands do not show much emaciation, but his coat and trousers hang about his frame very loosely. His skin has generally been dry, and he took a vapor bath July 29th, to start its action, but with not much success. Auscultation, on August 1st, showed that his lungs were normal. His pulse, respiration, and temperature have also been normal. The dynamometer has steadily registered about eighty kilogrammes. During the past week, his stomach has given him much trouble. There has been a regurgitation of bile, with frequent attacks of nausea; these sometimes ended in retching and vomiting. The vomited matter consisted of biliary matter, mucus, epithelium, and a few blood-corpuscles. In order to relieve the gastric distress, he has taken warm water, iced carbonic acid water, and mineral waters, but they did little good. Another difficulty that has increased in the last week, is tympanitis. His abdomen has become distended with gas, and he frequently belches wind or passes it per anum. Dr. Tanner's mind has been somewhat more irritable, but he has had nothing like delirium, or wandering. He had slept pretty well, though his periods of rest were short. The interest in his condition increases toward the last, as shown by the number of visitors. A changing stream of twenty or thirty are in the hall all the time. On August 2d, a telegram of encouragement was sent from Paris by some one. Daily bulletins of his condition were sent to London and Paris, and column notices have appeared in the daily press. Dr. Tanner weighed, on August 2d, 125½ pounds, a loss of 4½ pounds since July 26th. He has taken from sixteen to twenty ounces of water, and voided from ten to fifteen ounces of urine every day. Dr. Tanner's greatly enfeebled condition toward the last throws some doubts over the prospect of his holding out. It adds to the confidence of those who believe in his honesty.

The Canadian Medical Association.—The thirteenth annual meeting of this association will be held in Ottawa on the first Wednesday of September, 1880, under the presidency of Dr. P. Howard, of Montreal. It is expected that the meeting will have more than usual interest.

THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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PHARMACIST AND PHYSICIAN.

In discussing, in a previous number, the relations which should exist between physician and druggist, we alluded to some of the charges of unfair dealing which were referable to the latter. Pursuing the consideration of the subject we take up the other side of the question and examine the difficulties with which the pharmacist has to contend in his attempts to reconcile the differences between himself and the physician.

First of all, he claims that he must make a living. He naturally looks to the physician to help him do this. But he maintains that the profit from prescriptions, large as it is, is not enough to enable him to carry on his business with a decent margin. That physicians are as much in the habit of interfering with the business of the pharmacist as is the latter with that of the physician. For instance, the latter will frequently be asked the probable price of the prescription, and will be coaxed into the expression of opinion as to the extravagant charges of compounders of drugs; while others will purposely narrow the profits on prescriptions to the smallest limits, on the plea of saving money for their patients. They also claim that skill in compounding, and care in the selection of pure articles, should be duly appreciated and paid for accordingly, in fact that the true interests of the patient and the physician centre in the encouragement of pure and legitimate pharmacy.

Great, however, as these evils appear, they are small in comparison with the supplying of their own medicines by the physicians. This is virtually taking all the legitimate business from the hands of the pharmacists and reducing them to the level of mere venders of fancy articles and patent medicines. Again, it is claimed that the compounding of prescriptions is also directly interfered with by the wholesale manufacture of all sorts of pharmaceutical preparations, and which are not unfrequently advertised in the daily newspapers the same as other proprietary medicines. These are made in large variety, and each physician having his favorite manufacturer, insists that the latter's preparation be used in the prescription. This not only necessitates the breaking of a package for a small quantity, with the risk of spoiling the remainder of the preparation before a similar prescription is called for, but requires that a large number of such medicines be kept in stock. The margin of profit on these articles is generally so small, that in case there was a chance of selling out the entire lots while fresh, the business venture would be a very ordinary one. The manufacture of many of the most important preparations is more or less in the hands of wholesale men, who apparently leave the retailer with nothing better to do than to handle the goods in smaller lots for an inconsiderable margin of profit.

In looking at both sides of the question, and in attempting to reconcile the interests of the druggists and physicians, we come upon a very difficult problem. There is so much interdependency that it seems difficult to attack one point without disturbing the entire line. The physician is bent on preventing interference with his legitimate functions, looks upon counter or other prescribing as an outrage, while the apothecary is interested in checkmating the physicians who insist upon prescribing their own remedies, and who do other things which tend to interfere with the legitimate practice of higher pharmacy. As soon as the pharmacist is as competent to prescribe as is the well-educated physician, and as soon as the latter is as capable a compounder as is the skilled pharmacist, then the conditions of each will be interchangeable. As it is, this is impossible. And both professions are indispensable to each other. The physician cannot afford to be his own dispenser. As stated by a correspondent in a previous issue, this would be a long step backward in the progress of medicine and in therapeutics. The physician who by such means would narrow himself to the use of a few convenient preparations would become the merest machine prescriber, and his therapeutical aspirations would be narrowed to a rigid procrustean rule. In many cases he would be prescribing remedies of the character of which he knew nothing and of the purity of which he knew less. The physician owes to pharmacy the most cordial aid, for to it he must look for the solution of many problems of chemical composition, for the guarantee of accurate measurements of quantity, for absolute purity of material, and for strict compliance with the directions of the prescriber. These conditions are always fulfilled by the conscientious pharmacist, and such should always be sought out by the physician. The mere counter-prescribers, patent medicine jobbers, should be left to themselves, and pains should be taken to prevent our patients from going to such establishments. As has been previously suggested in these columns, the physician has as much right to prescribe the man who shall put up the medicines as the medicines themselves. When once a druggist is caught at counter-prescribing, the physicians of the neighborhood should take pains to give him as little opportunity as possible for exercising the questionable calling.

The suggestion that co-operative pharmacies be established in different neighborhoods, each establishment being supported by a corps of prescribers, is a good one, but in view of the excellent pharmacists scattered all over the city, men who are competent, upright, and who would do everything to help the physician, it is hardly necessary.

There is perhaps a better understanding necessary as to the price to be charged for prescriptions. While it is necessary that skilled labor should be recompensed, it is also important that some of the patient's money be left for the physician. If no more than a reasonable profit be demanded by the pharmacist, much cause for the dissatisfaction on the part of physician and patient would be removed. It is well known that some preparations are very expensive. In such cases every encouragement should be given to the pharmacists to use the right drug regardless of the price asked, and the physician should be ready to explain the reasons for such charges to his patients. Such a course could not fail to be satisfactory to all concerned, and specially so to the patient, who above all is interested in obtaining the pure article.

If such a general course is pursued, there will eventually be two classes of drug stores, one devoted principally to the higher branches of pharmacy, the other to the sale of patent medicines, hair-dye, and bug powder.

TANNER'S FAST.

The exhibition at Clarendon Hall will come to a close to-day, if it has not done so sooner, and the attenuated experimenter, doubtless with much satisfaction to himself, returns to his normal diet. The principal items regarding his performance, that possess any scientific interest, have been published in The Record, and do not need repeating here. There has been, however, so much public comment from all sources upon the matter, that we are excusable in discussing the subject briefly now.

It is undoubtedly the popular opinion that Dr. Tanner is honest, and that he eat nothing during the time of his fast. We are not disposed to deny the justice of this judgment. There is nothing in the character of the faster which would lay him under any particular suspicion. His past history has been that of a man of respectable character and of strong self-will, who has endeavored to lift himself out of an unsuccessful medical career by fanatically advocating various theories on the subject of electricity and fasting. In his present experiment he has been watched quite constantly by three sets of men, whose honesty or intelligence it is not fair to impugn. We do not think it strange, therefore, that he is generally believed to have kept the fast as he claims to have done.

The are, however, certain other elements in the matter which rob his experiment, whether genuine or not, of nearly all its value. In the first place, it cannot be positively denied that he did not take any food. One set of his watchers was confessedly in sympathy with him, and wished strongly for his success. The regular physicians were not continuous in their attendance at first, and he was not always under their eye. Dr. Tanner was taken out to drive, went to the photographer's and the barber's, and took occasional strolls about the neighboring square. Finally, his physical condition was considerably different from that which all past experience has shown to follow abstinence from food. His surprising vigor, his occasional gain in weight, his comparative freedom from suffering of any kind, are phenomena which are not easily explained under accepted physiological laws. If to this is added the manner in which the experiment was conducted—a manner which had the mixed character of a variety show and a patent-hammock advertisement—we feel sure that the profession will agree that little practical or scientific value can be given to the alleged fast.

Apart from this view of the matter, there were several unpleasant features connected with the exhibition. There was, for instance, an attempt all along to create the impression that the regular physicians were inimical to Dr. Tanner; that they believed the feat of fasting forty days a physical impossibility, and that his success in performing such a feat would be a blow to scientific medicine. This absurdity was fostered by a few indiscreet individuals who felt it their duty to appear in the daily newspapers. There has been, however, no physician, so far as we know, who has denied the possibility of accomplishing the fast. All that has been desired was that the experiment should be carefully conducted, so that some benefit might accrue to science in its performance.

In denying any practical value to Dr. Tanner's performance, we might make one slight exception. The widely advertised announcement of the fact that a person had comfortably passed many days without food will lead many other persons to try the same thing, to a greater or less extent. If this is done under the guidance of good physicians, it may secure some definite knowledge of the therapeutic effect of fasting. There is no reason why it should not be of occasional value in cases of digestive trouble, obesity, etc. With the comfort of having given an impulse to this somewhat doubtful branch of therapeutics, and of having gained the ephemeral notoriety which he craved, we recommend Dr. Tanner to return to the simpler joys of his electrical baths and a normal diet.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 17, 1880.

VICE-PRESIDENT, FRANK H. HAMILTON, M.D., LL.D., IN THE CHAIR.

THE paper of the evening was by DR. AMBROSE L. RANNEY. Subject:

ARE THE BENEFITS TO BE DERIVED FROM INTERNAL URETHROTOMY, AS NOW ADVOCATED FOR THE CURE OF STRICTURE, COMMENSURATE WITH ITS DANGERS?

Dr. Ranney divided the modes of performing internal urethrotomy into two kinds: the one which divides the stricture slightly, and the other, which cuts it deeply.

A large number of authorities were quoted, showing that cutting operations did not furnish, except in a few cases, the safest or best method of treating the strictures. Dr. Ranney could positively state that internal urethrotomy did not always give satisfactory results as regards cure. A list of the possible sequences of the operation was given: hemorrhage, fever, curvature of the penis, etc. The view that the operation is not often necessary, and is now performed much too frequently, was taken, and supported by quotations from a large number of authorities.

The operation was then discussed: 1st, as regards its elements of popularity, Dr. R. referred to the great increase in the cutting operation, which had occurred in the last few years. He took issue against the views of the new school of urethral pathologists, who cut every urethra which is not large enough to admit a sound of a certain arbitrary size. The arguments of this school regarding the value of the dilating urethrotome were stated. Dr. R. said that at present their doctrines seemed to be eagerly embraced by many young men; that instrument-makers were selling large numbers of urethrotomes to medical graduates. He deplored this fact as one likely to bring danger to patients and reproach to surgery.

The elements of danger in the operation were then given.

Different sets of cases, reported by Dr. F. N. Otis, were analyzed with reference to accidents or sequelæ. In one set of cases there were: hemorrhages, 4; rigors, 6; prostatic abscess, 3; diphtheritic exudation, 3; perineal section necessary, 1; gonorrhœal rheumatism, 1.

The cases of Dr. Pease, of Syracuse, were analyzed and the per cent. of complications given.

Dr. Ranney said that in the cases reported by Dr. Otis and some of his followers there was a better showing as regards hemorrhage than the facts really warranted. This he inferred from a statement of Dr. Otis's, that hemorrhage was not put down, unless it reached a certain advanced measure of severity. Furthermore, Dr. Otis had not reported cases in which he had operated for other surgeons. This was to be regretted, for Dr. R. had heard of a number of bad results in such operations.

Dr. Ranney asserted that, as yet, there were not enough full statistics regarding the accidents that follow internal urethrotomy to give a correct idea of the dangers of the operation. Dr. Sands's statement that three deaths had occurred in New York City hospitals from the operation was quoted; unfavorable statistics from Mr. Berkley Hill were also given. Dr. Ranney related a case that he had seen in 1871, and another in which he had himself operated; both of them died. Another case, in which atrophy of the penis followed the operation, was quoted. Cases lost by Drs. Peters and Post and Otis were mentioned. The many fatal cases in the hands of French surgeons were enumerated. Sixty-six fatal cases in all have been verified. Reviewing the whole, the point was made that the bad accidents formed a larger percentage than is generally supposed.

The benefits claimed by the operation were enumerated:

1st. That gleet is the signal which nature hangs out to indicate a urethral stricture. That a removal of the cause furnishes the only means of cure for such gleet.

2d. That certain obscure symptoms, such as neuralgic pains, pains in the back and limbs, etc., are dependent on stricture, and demand an operation.

3d. That all methods of treatment, except by urethrotomy, will generally be found useless.

4th. That the dilating urethrotome effects a radical cure.

5th. That the operation is free from danger, and that the benefits derived from its use recommend it to the profession to the exclusion of other methods of treatment.

6th. That the records of the cases so far announced support all of the above points.

Dr. Ranney then discussed the foregoing points in detail. In regard to (1), it involved the question of, what is a stricture? The definition given by the new urethral pathologists is, that there is a stricture whenever the urethra will not admit a sound of a certain arbitrary size. Much that has been said on this point is dogmatic and cannot be fairly substantiated. Authorities were quoted showing different views on the subject of what is a stricture and its relation to gleet.

(2.) The question of how many symptoms that are asserted to be reflex really are so, is a very wide one. But it may be said that when a urethra which admits a tolerably large sound, or in which there is gleet, is cut because a man has pain in the back or in the foot, it is doing a dangerous operation on the basis of an unproved theory. More conservatism is needed.

(3.) Regarding this point, Dr. Ranney thought that the alleged absence of tendency to a return of stricture after cutting, was exaggerated. He was certain, on the other hand, that some strictures had been cured by dilatation. The annoyance of using occasional sounds is slight, and he believed it should be advised rather than subject the patient to a hazardous operation.

(4.) This point was accepted, except in a certain proportion of cases. He did not think that internal urethrotomy should ever be employed when the stricture is more than four inches from the meatus.

(5.) Regarding the alleged freedom from danger, statistics were given at great length. In the 915 cases collected by Dr. Gregory, there had been 46 deaths, or 5 per cent., a fatality which almost equals that for perineal section. Other accidents, especially that of hemorrhage, were very alarming, and the facts led Dr. Gregory to ask, in making his conclusions, whether internal urethrotomy ought ever to be performed. Dr. Ranney then gave an analysis of 240 cases. In these, hemorrhage occurred in 5½ per cent.; rigors, 7 per cent.; deformity of the penis, 4 per cent.; death, in about 2 per cent. In 43 reported cases at the Hospital of St. André, there was hemorrhage in 36 per cent.; urethral fever, 59 per cent.; rigors, 36 per cent.; abscess, 9½ per cent.; death, 20 per cent. In 68 cases at the University College there was hemorrhage in 7 per cent.; urethral fever and rigors, 20 per cent.; abscess of perineum, 11 per cent.; curvation of penis, 4 per cent.; orchitis, 4 per cent.; pyelitis, 3 per cent.; death, 5¾ per cent.

Statistics of 16 cases gathered from other sources show a mortality of 5 per cent.

Statistics show a rapid increase in the percentage of deaths when the operation is below three inches from the meatus. Urethral fever seems to occur oftener in Europe than in this country, though rigors are just as frequent here.

The results of a study of 200 cases from private case-books of surgeons of this city, showed many unfavorable accidents and complications. Dr. Ranney had heard strongly unfavorable opinions as to internal urethrotomy from a number of prominent surgeons of the city.

In conclusion, the following rules regarding the operation were laid down:

1st. Seldom resort to it; never, except the stricture be of traumatic origin, resilient, or at the meatus.

2d. Never perform internal urethrotomy if the stricture is more than four inches from the meatus—three inches is perhaps better.

3d. In strictures of the deep urethra, where ordinary methods of dilatation fail, external urethrotomy is the best operation to adopt.

4th. Dilatation of strictures will be found practicable in the majority of cases, and in many cases will entirely relieve all the symptoms.

5th. Internal urethrotomy should only be performed when the stricture has been treated by other means without avail.

The paper being open for discussion,

Dr. Dowell, of Texas, said that he had had one death from internal urethrotomy in over one hundred cases. He had been in the habit of using an ovoid metallic retention catheter with very satisfactory results. He learned that Dr. Otis was opposed to the use of the catheter; but he did not agree with him. In Dr. Dowell's experience it had acted well.

Dr. A. S. Hunter said that he used a dilating urethrotome, though he laid it aside when he reached the bulb. He had not been so much afraid of hemorrhage since he had used hot water. Just before operating, he suspended the penis in hot water; he did the same with the instruments. He also left the instrument in for five minutes. The deeper strictures he dilated either with the ordinary sound or, better, with a dilator which resembled the Otis dilator except that it was curved. Dr. Hunter then showed his dilator, by which more expansion could be given at the point than at the heel, even on the curve. He also described an instrument for arresting urethral hemorrhage. Since he had used hot water, he had had no occasion for it, however.

Dr. T. H. Burchard said that he had performed internal urethrotomy fifty nine times up to 1876. Since then he had performed the operation very rarely, and expected to perform it still less. The statistics of eighty-three internal urethrotomies were given. In these there were total suppression of urine in two, and extensive hemorrhage in three. Dr. Burchard considered internal urethrotomy unjustifiable except when there is great resiliency, or where the stricture is very gristly and cartilaginous, the result of traumatism or long-continued inflammation. The vast majority of cases could be treated much more scientifically and safely by dilatation.

A case of hypospadias, and another of double curvature, due to internal urethrotomy, were related.

Dr. White said that his experience had been very different from that of Dr. Burchard. He had met with few accidents, and the results had been satisfactory.

Dr. F. H. Hamilton spoke of the deep importance of the subject under discussion. He referred to his early teaching regarding it. He was first taught that traumatic strictures were incurable, and that any cutting operation made strictures traumatic. He was then taught that divulsion was the best method. His faith in this was soon lost. He then became acquainted with Dr. Dudley's method, in which there were no instruments used whatever, but simply antiphlogistic measures, with rest in bed. Taking the hint from this, he had always since then employed only rest in bed, with diet and gradual dilatation. He never used any cutting instrument whatever. He believed that the internal urethrotomy of early life meant stricture in old age. Dr. Hamilton had never in his whole life had a fatal case in his treatment of strictures, and all of them had been overcome by gradual dilatation.

Dr. A. C. Post spoke of the fatal case of internal urethrotomy referred to by Dr. Ranney. He had used a Maisonneuve's instrument at that time. He should not use one again. He believed that internal urethrotomy should be performed in obstinate strictures in the antescrotal portion of the canal. Dr. Post had not seen any bad cases of hemorrhage. With regard to wearing a catheter after urethrotomy, he said that he thought the practice a bad one; though if a choice is to be made, the solid silver catheter is the best.

Dr. S. Caro quoted, with approval, the teaching of a celebrated Italian professor, never to use any instrument for stricture. He, himself, used bougies made of guitar strings. A small one can be introduced. It swells up, and when it is withdrawn, a larger one can be put in. Dr. C. related two cases now under his care, which had been operated on two and three years ago by celebrated specialists. The strictures had now returned.

Dr. Ranney, in closing the discussion, said he did not wish it understood that he totally condemned internal urethrotomy. But he did condemn, absolutely, internal urethrotomy below four inches from the meatus. He regretted that a number of New York surgeons, who had told him that they agreed with his views, were not present to confirm the statements he had been making as to a growing distrust among many that internal urethrotomy is an operation attended with much more danger and less advantages than is generally supposed.

The Society then adjourned to the third Thursday in September.

The Discovery of Spontaneous Horse-pox in a Parisian stable, is an event of considerable importance, as the disease is quite a rare one. Since horse-pox is supposed by many to be identical with cow-pox, its discovery furnishes an opportunity to get fresh vaccine lymph. In the present case, the disease has been inoculated into some heifers, the eruption carefully watched, and other vaccinations and revaccinations made from it.

THE NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 27, 1880.

Dr. H. B. Sands, President, in the Chair.

Dr. Erskine Mason reported a case of

FISTULA OF STENO'S DUCT

following gunshot wound, successfully treated by dissecting up the fistulous extremity of the duct and conducting it into the mouth, after the method of Langenbeck, with some remarks upon the treatment of salivary fistulæ.

In September, 1870, he was called to see a boy, æt. fifteen, who had been wounded by the accidental discharge of his gun, which was loaded with buckshot. A large, lacerated wound of the right cheek had been made, which freely communicated with the mouth and extended from the zygoma to the symphysis of the jaw. The lower jaw was fractured transversely just below its neck, and the ramus considerably comminuted as far as its angle. Several of the teeth had been removed, while the tongue was but slightly wounded. The inferior dental nerve was exposed for an inch or more in its course, and presented a ragged appearance. Hemorrhage had been quite profuse, but was arrested by Dr. Jay, who was in the vicinity at the time of the occurrence of the accident. The wound was dressed, and on the 11th of October it was all closed, save a small opening which communicated with the mouth and readily allowed the passage of a probe, and through which some saliva was flowing.

Oct. 21st.—The patient complained considerably of saliva escaping from the wound on the cheek while eating. Application of nitrate of silver was made to the fistula at that time.

Nov. 29th.—Nitrate of silver was again applied to the fistula, which, however, gave but slight annoyance. The flow of saliva, however, finally increased and become a source of great trouble, and in September, 1871, there were two openings from which saliva trickled and produced some excoriation of the face. These openings were but a few lines apart, and seemed to be a little below the site of Steno's duct, though the location was close to the spot where the duct enters the mouth, as was readily determined by a very fine probe which could be made to enter the canal from within the mouth. The probe could be passed only just within the orifice when it met with an obstruction. These fistulæ were situated in a track of cicatricial tissue. In operating Dr. Mason preferred the method which Dr. James R. Wood had employed in two cases, namely, cutting down upon the duct at the site of the fistula and turning it into the mouth. The operation was performed Feb. 24, 1871, assisted by Dr. Jay. The duct was found by laying open the fistulous tracks, and with a fine probe as a guide, dissecting out the cicatricial tissue around the fistula, freeing the extremity of the duct, and turning it in through the opening into the mouth. The external wound was then closed with wire sutures. The upper portion of the wound healed at once very kindly, though at the lower portion there was some suppuration, but it soon ceased and the wound healed, leaving the patient free from salivary fistula. At the time of the operation he did not know that he was operating according to a plan suggested and adopted by Langenbeck in the treatment of these fistulæ. When the operation was feasible he commended it to the attention of the surgeon, though in many cases, no doubt, a more simple procedure may effect a cure.

Dr. Mason then referred to cases of spontaneous closure of salivary fistulæ. Reference was then made to some of the earlier methods adopted for the cure of these fistulæ. Perhaps of all operations thus far resorted to, the one which would seem applicable to many cases, which was simple in its procedure, and devoid of the unpleasantness necessarily attached to the seton, was the one devised by the late Dr. Homer. The operation had been described by Dr. H. H. Smith in his work on Operative Surgery, as follows: "The patient being seated with the head well supported by an assistant, a strong wooden spatula is introduced within the cheek of the affected side; this is held firmly by an assistant. The wound being then slightly elongated by incising its sides in the line of the zygomaticus major muscle, a round punch, like that used by saddlers, should be placed over the fistulous orifice, care being taken to avoid the anterior of the masseter. Then on pressing the punch firmly against the spatula within the mouth, a piece of nearly the entire thickness of the cheek will be removed, and a fresh opening made directly into the mouth. The external wound being closed accurately with sutures and adhesive strips, will usually heal kindly, and the internal opening be found to give free vent to the saliva.

Dr. T. M. Markoe referred to Dr. Van Buren's case, on the person of an officer of the army upon whom several operations had been performed, but that which finally proved successful was one in which the integument surrounding the external fistula, was, by a circular incision, dissected up in such a manner as to leave the fistula terminating in the raised portion. That raised portion was turned into the mouth through an opening, and the wound behind it closed with sutures. It seemed to Dr. Markoe that that operation was almost the only one suitable to the class of cases which was the most difficult to manage. As was well known, there were two classes of cases: one in which the ducts were opened upon their sides, the wound allowing the saliva to dribble outside while the opening of the duct into the mouth remained patent, and the other when the duct was destroyed entirely (no hope being entertained of utilizing its distal portion), and when the proximal portion of the duct terminated upon the external surface of the cheek. To the latter class of cases he thought the operation of turning the integument, containing the external fistula, into the mouth, was well applied; and that it was a beautiful and scientific procedure.

The President referred to a case in which he established a fistula in the mouth of a patient sent to him several years ago by Dr. Rider, of Rochester. From some unknown cause she had obliteration of Steno's duct near its orifice, and, as a result, there was a very considerable dilatation of the duct itself, causing a prominent and disfiguring elevation on the cheek. In that case he ran a platinum wire through a corresponding projection in the mouth, connected it to a battery, and divided the intervening tissues. The result was an immediate subsidence of the external swelling, and at the end of two months the deformity had not reappeared; but what the ultimate result was he did not know.

VESICAL CALCULUS—BILATERAL LITHOTOMY.

Dr. A. C. Post presented a flattened oval calculus, with rough surface, which measured a little more than an inch in its longest diameter, and weighed

149 grains. It was removed from a boy 16 years old, whose genitals were those of a boy of twelve rather than sixteen. The bilateral operation was performed after making the incision into the neck of the bladder, the screw dilator was introduced, the opening enlarged, and the stone readily extracted. An interesting feature of the case was that there had been no dribbling of urine whatever. During the the first twenty-four hours after the operation the urine passed through the wound, and then it began to pass in part through the penis. There had been no elevation of temperature.

CANCER OF THE RECTUM—PROCTECTOMY.

Dr. Post also presented a portion of the rectum removed from a man fifty-three years of age, who looked like a man seventy years old, and who had been conscious of irritation of the rectum only about three months. On examination a tumor was found occupying the rectum on the left side, toward the posterior part, about two or three inches in diameter, and involving not more than two-fifths of the circumference of the bowel. Regarding the case as a favorable one for proctectomy, he made an incision upon each side of the sphincter, divided the levator ani muscle, drew the anus down, and then removed the diseased portion, including about three-fifths of the circumference of the rectum. The remaining portion he attached to the integument. It was fifteen days since the operation was done, and the pulse at no time had reached 100, nor had the temperature reached 101° F. The patient was troubled with slight looseness of the bowels, but otherwise the case was progressing favorably. The elevated portion of the intestine had already descended almost to the level of the skin. The evacuation from the bowels took place without distress.

Dr. Post also exhibited a drawing of a very marked deformity, occasioned by an application made by a cancer-doctress for what was supposed to be cancer of the upper lip. The paste had destroyed the upper lip almost entirely, and he proposed to perform a plastic operation to correct the deformity.

GUNSHOT WOUND OF THE HEAD—NO SYMPTOMS—SUBSEQUENT DEATH FROM MENINGITIS.

Dr. T. M. Markoe presented specimens which were especially interesting in connection with one presented by Dr. Geo. A. Peters, at a previous meeting. (See minutes of stated meeting for March 23, 1880.) The specimens consisted of a portion of the skull and the dura mater removed from the body of a soldier who, a little more than two months ago, in a fit of melancholia discharged a pistol against his right temple. The ball which it carried was, probably, of some size above 22, the calibre commonly employed. Not being satisfied with the effect produced by the shot, he proceeded to cut his throat, which effort was as ineffectual as his first. The throat wound was not serious, and the head wound was not accompanied by any symptoms. The external wound of the head was exceedingly small. He recovered from the wound in the throat, and, in the meantime, the wound in the head was regarded as trifling. The bullet was not found. The wound on the head had entirely healed. At the end of five weeks he began to complain of pain in the back part of the head; especially was the pain extremely severe in the muscles of the nuchæ, and during the last three or four weeks of his life his suffering was intense. His temperature did not rise much above the normal, and it was difficult to appreciate the exact nature of the case. The symptoms increased in severity, coma appeared, and shortly afterward there were symptoms of compression, as if from the exudation of morbid products within the skull, and the patient died.

The portion of skull removed showed the point at which the wound took place, and the internal border of the opening was somewhat blackened by the lead. The ball was found, somewhat disfigured, lying upon the dura at a point opposite to that at which it passed through the bone, and in a rounded depression about half the size of a large pea, which had caused a corresponding depression in the brain-substance. On the inner surface of the dura mater was a corresponding elevation, made partly by the ball and partly by the piece of the internal table which had been carried before it. The process of normal repair had been going on about the depressed portion of the dura and about the bullet, and the membranes surrounding the wounded part were perfectly normal. In the posterior part, along the dura mater which covered the pons, and backward between the lobes of the cerebellum, there was a considerable quantity of purulent and fibrinous exudation—distinct evidences of inflammation. Careful search was made to see whether there was anything like a continuity between the two conditions found, but it did not appear. It was a case which illustrated how apt nature was in adapting herself to very serious lesions. The bullet did not apparently perforate the dura mater; if it did, the perforation had been sealed by the process of repair. It was nearly nine weeks since the wound was received.

Dr. Weir referred to a case seen by him during the war, and which is recorded in the Surgical Reports issued from the Surgeon-General's office, of a private soldier who was wounded by the entrance of a Minié bullet through the left temporal bone into the brain. No cerebral symptoms followed, except some facial paralysis. What was supposed to be the entire bullet was extracted the next day from the brain, one and one-half inches from the surface. The patient was discharged from the hospital in good condition and with wounds healed. Two months afterward he got drunk, and a day or two following had convulsions and other cerebral symptoms, and died. The autopsy showed two-thirds of a musket-ball resting on the sella turcica.

Dr. J. G. Curtis referred to a case that came under his observation while house surgeon in Bellevue Hospital, in the service of Dr. Markoe. A man who had attempted to kill himself by using a small brass single-barrelled pistol, loaded with a leaden bullet, and firing it off while held in close proximity to his head, in the temporal region, was brought to the hospital without special symptoms, and the probe, cautiously used, gave no special information. It was thought that the bullet probably had not penetrated the skull. There were no cerebral symptoms whatever for about five days. In the meantime it was found out that he was suffering from chronic Bright's disease. On about the sixth day he had morbid impulses, and requested to be sent to a room where he could be alone. He was so sent, and on the next day he became suddenly comatose, and died within a few hours. The symptoms were such as to render diagnosis doubtful, in view of the condition of the kidneys. Autopsy revealed a bullet lodged in the right middle lobe of the cerebrum, with considerable softening of brain-tissue about it, and acute meningitis of the whole surface of the right cerebral hemisphere.

Dr. L. M. Yale referred to a case in which a young man shot himself accidentally with a small pistol. The peculiarity at first was the existence of a certain obscurity in mental action. The boy went about during the day, changed his collar because it was bloody, but did not appreciate that he had been shot. In the evening he visited some friends, who, noticing something peculiar in his manner, and seeing blood on his collar, called a physician, who caused him to be put to bed. Head-symptoms came on gradually, with occasional lucid intervals, and during the latter the story of the shooting was gradually drawn out. He finally died comatose, and the ball was found, having caused a small abscess in the anterior part of the brain.

The President remarked that it was sometimes difficult to interpret the symptoms which followed gunshot-wound of the head. For example, in 1878 he was called to see, in consultation, a savings-bank director, who, through fear of arrest and prosecution for criminal misconduct, and being melancholic, attempted to destroy his life by discharging a pistol close to his right eye. The shot was made in the morning, and Dr. Sands saw him a few hours afterward, at which time the man seemed to be insensible. It was found that the ball had entered the right lower eyelid, and probably the eyeball. The eyesight was evidently destroyed, the pupil was dilated, but no considerable probing was done, and, although no aperture through the eyeball upon the distal side was discovered, it was believed that an opening existed, and that the ball had penetrated the skull and caused the cerebral symptoms. It was supposed that the man would soon die, but he survived, and gradually recovered; at times he seemed insensible, at other times incoherent; but there was something about the case that induced both the attending surgeon and Dr. Sands to suspect that the man was feigning disease. For it was said that during their absence he would get out of bed and walk about the room; and once he was found sitting very comfortably in an arm-chair, although he would not hold any conversation, and seemed stupid. Whether the ball penetrated the brain Dr. Sands did not know; he was led to believe that it did, because no severe inflammation of the eyeball followed the injury, as probably would have followed had the ball lodged there.

HERNIA CEREBRI.

Dr. Markoe referred to a case of fungus cerebri under his care, which was progressing exceedingly well under the plan of treatment which he was taught by his preceptor, the late Dr. Gurdon Buck, namely, liberal and frequent cauterization with nitrate of silver, and pressure by means of a compress, lead being preferable. The patient was a man æt. 20, and the fungus followed trephining. He supposed that it belonged to the class of cases in which the protrusion consisted of granulations from a healthy brain surface, and these cases could be treated satisfactorily by the method indicated. There was another class of cases in which the protrusion consisted of fungus from the sides of an abscess, and which ultimately and uniformly destroyed the life of the patient.

The solid stick of nitrate of silver was applied directly to the tissue and into it, and a mass as large as half a silver dollar could be melted away daily.

The opening in the dura mater was very small, and the protrusion occurred ten or twelve days after the operation, which was done to remove a small piece of depressed bone that lacerated the dura. Just before the granulations began to appear, the young man had one epileptic seizure, but it had not been repeated.

Dr. Briddon suggested the elastic ligature in cases in which the fungus assumed the mushroom shape, with the view of avoiding hemorrhage.

Dr. Post referred to the difference in prognosis, as to whether the accident occurred in children or grown persons—the majority of children recovering, and fatal terminations being very common in adults.

AMPUTATION FOR GANGRENE.

Dr. J. C. Hutchison referred to a case of gangrene of the forearm in which amputation would be necessary, and asked with reference to performing the operation above or at the elbow-joint. The gangrene was due to embolism.

Dr. Post remarked that if sufficient sound material could be obtained to cover the stump he should amputate at the elbow-joint rather than go above. He thought that a more useful stump could be obtained in that way than by amputating through the shaft of the humerus.

Dr. Weir referred to a case in which he amputated at the elbow-joint, and the stump was very satisfactory. Pressure could be borne without pain.

Dr. Markoe remarked that he had amputated at the elbow-joint twice with satisfactory results. He should prefer the elbow-joint rather than go higher up, and believed that, so far as the adjustment of an artificial limb was concerned, the difficulties would be eventually overcome the same as they had been with reference to amputation at the knee-joint.

Dr. Post referred to an amputation at the elbow-joint which he did on a young infant on account of malignant disease, and the stump was beautiful and in every way satisfactory a year after the operation.

Dr. Briddon referred to a case of senile gangrene of the foot, in which a line of demarcation had formed at about the junction of the middle with the upper third of the leg. He thought there was pulsation in the popliteal artery. He proposed to amputate at the knee joint, although he regarded the line of demarcation as evidence that amputation might be made quite near to it with safety. He asked with reference to amputating at or below the knee-joint.

Dr. Mason referred to the case in which Dr. Sayre amputated at the knee joint, and in which the popliteal artery was plugged so that no hemorrhage could occur, no ligature was applied, and the patient recovered.

Dr. Markoe referred to Dr. Peters's case, already reported to the Society [see minutes for stated meeting, Feb. 24, 1880], in which the popliteal artery was plugged at the time amputation was performed. In waiting until the limb had almost tumbled off before operating, he thought Dr. Peters did wisely.

Dr. Weir regarded it important in this as well as senile gangrene to avoid all possible causes of inflammation. In other words, in senile gangrene, remove the limb at the line of demarcation, and in the other cases where the amputation is made higher up, and observe full antiseptic precautions for the same reason.

The Society then proceeded to the transaction of miscellaneous business.

The Blind in France number 31,631. Of these, 5,928 were born blind, and 25,653 lost their sight by accident or disease.

Correspondence.

"RELATIONS OF NERVE AND MUSCLE" —A REPLY.

To the Editor of The Medical Record.

Sir:—I regret that the criticism of Mr. W. C. McGeffert, A.B., on one of my recent articles, is not more to the point, and consequently that it is not more of a character to facilitate an arrival at the truth of the several matters at issue. As my silence in reference to it might be misconstrued, I trust I may hope for the insertion of the following response:

I am asked to explain, in accordance with my theory, "why, at the moment of death or on cessation of the nervous functions, there is not an immediate muscular contraction?" I have already anticipated this objection in an explanation of considerable length, in the Record of May 8, 1880. If your correspondent has not read this explanation, this omission shows how little pains he has taken to grasp the subject as I have presented it. If he has read it, and does not accept it, he would have done better to set about refuting it, than simply repeating the question.

As to "why the muscles of a decapitated frog," instead of being at once contracted, "will still actively respond to the stimulus of electricity," the subject will be found discussed in the article entitled "Electricity a Paralyzing Agent," in the Medical Record for Nov. 1, 1879. For a very high estimate of the powers of the spinal cord as an independent organ, see Prof. Kuss's Lectures (Duval Amory), p. 32. The spinal cord centres of the decapitated frog continue to restrain the "property of contractility" in the frog's muscles, and the terminal nerves within the muscles continue this *rôle* after the cessation of activity in the spinal centres, and even after the removal of the muscle from the body. It is by the microscopic filaments of nerves in the nuclei of muscle-cells of the ultimate fibrillæ that the work of the muscle is done. Electricity suspends the function of these microscopic nerve-filaments, setting the protoplasmic cells of the muscle free to contract. The injury of a pinch, the shock of a blow, or the corrosion of an acid, applied to a nerve-trunk, causes a paralyzing wave to reach the nerve-endings, and produces a similar contraction. The idea that such rude assaults upon microscopic nerve-tissue act as "a stimulus," increasing its activity instead of arresting it, is worthy rather of the pickaxe and crow-bar brigade than of the histologist.

Your correspondent announces himself as "simply a student of medicine." Well, as he pursues his studies, he will find that there is a "difference between dead men," and that, in death from certain causes and by certain modes, nerve-force lingers longer in its proper channels, and maintains its relation to the muscles longer than in others. For example, as a result of hyperæmia, the muscles "preserve longer than is usual, after death has occurred, their proper contractility" (M. Charcot).

It was quite unnecessary for Mr. McGeffert to remind me that the heart has its own nervous ganglia, and "does not depend alone on the cerebro-spinal system." How little this is to the point will appear when it is recalled that my allusion was to "the pulsations of the fœtal heart, *before the development* of a *nervous system or of nerves*."

The *pulmograde acalephe* is propelled through the water by "the rhythmical movements" of its muscular disk, which bear a close "resemblance to the rhythmical contractions of the heart of higher animals." Yet the extent of the diffusion of a nervous system in these animals is "so limited that it is impossible to imagine the whole contractile tissue of the disk to be influenced by it; and, moreover, portions of the disk entirely separated from the rest, and *not containing any portion of the nervous centres*, will continue their alternating contractions and relaxations, just like the heart of a cold-blooded animal taken out of the body" (Dr. Carpenter: "Compar. Phys.," p. 634).

Here are illustrations on the highest authority, proving that, in the higher and lower forms of animal life, muscular contractile power is independent of any stimulus from the nervous system. Why should it be thought necessary to invoke this supplementary (purely hypothetical) stimulus in aid of the muscle, seeing, as Todd and Bowman state, muscular tissue is exquisitely organized for the production of its proper force, and "it is contrary to all analogy for one tissue to confer vital properties on another"? Where, in short, is the proof that nerves ever do stimulate muscles to contract?

I have never asserted or implied that "relaxation is active and contraction passive." I hold that, when a muscle is cut off from the influence of the will by paralysis of its nerve, the *muscle* itself is not "paralyzed." With the loss of voluntary power, the action of the motor nerve is weakened, but in the milder forms of paralysis it is still able to restrain the contractile power of the muscle. When contraction occurs, there is simply a deeper degree of nerve paralysis, which sets free the contractile power of the muscle. The justification of this view of the case is to be found in the records of pathology, which show that it is invariably the more serious or more protracted cases of nerve paralysis which are associated with muscular contraction.

In the case of the victim of a debauch, the motor nervous system is, of course, partially paralyzed by the narcotic effect of alcohol. When, in his subsequent tremulousness, "a stiff glass sets him to rights again," it acts as a temporary stimulant to his enfeebled nerves, restoring to them the balance of power over the muscles, and putting an end, for a time, to the incipient contractions of the latter. But, on the theory of the day, the tremors of the muscles are due to an excess of nerve-action, and the treatment ought to be of a kind to lessen the undue nervous excitement—that is, to remove the cause. Fortunately for our patients, the theory of the day is ignored in these and other cases, and the one here presented is wisely, though unwittingly, acted on.

Would my critic be surprised to learn that ligaturing a nerve-trunk arrests its power of conducting nerve-force? (Dr. Carpenter: "Hum. Phys.," p. 354). That compression of a nerve also results in paralysis, he will find by a reference to Dr. Hammond's work on "Diseases of the Nervous System," p. 303 et seq.; Soelberg Wells's "Dis. of Eye," p. 636; Bastian, "Paral. Brain Dis.," pp. 9, 10; Bennett's "Clinical Lec.," p. 307; Watson's "Lectures," p. 368, and numerous other authorities. So that it is quite justifiable to hold that the cramps in the limbs of a parturient woman, knotting the muscles, are due to the arrest of nerve-force; the pressure on the pelvic nerves sending a paralyzing wave to the extremity. How such a condition should cause the increased generation and "discharge" of nerve-force wherewith to "stimulate" the knotted muscle, it is impossible to imagine.

Your correspondent writes: "No one will say that spasms and conditions [contractions ?] are caused by nervous activity." Now, that is precisely what people do say, and what the theory of the day teaches. Thus, Dr. W. B. Carpenter states that "convulsive diseases are dependent upon excessive activity of the nervous centres" ("Hum. Phys.," p. 846). This idea pervades all the literature of this subject. Certain conditions and drugs are said to "excite tetanus" (Ringer, etc.). The spasms of strychnia-poisoning are attributed (as Dr. Anstie states, solely in deference to the theory in vogue, and not at all on the merits of the facts) to "an excitation of the spinal centres." So long as it is held, with Dr. Pereira, that "the muscles receive from the nervous system a preternatural stimulus to action," so long will excessive muscular action be held to be caused by an increased stimulus. Dr. C. B. Radcliffe defines "the current view of the physiology of muscular motion" as "a view according to which the excess of muscular contraction is owing to a corresponding excess in the stimulation of a vital property of irritability in nerve and muscle. See his "Lectures on Epilepsy, Spasm," etc. (p. 239), a considerable portion of which is taken up in the refutation of this doctrine.

The term "irritation," when used in this connection, is evidently synonymous with exalted action, because, when nerve-tissue is "irritated," if any modification in its action is produced at all, there must be either a lowering or an increase in its molecular activity. If the activity of the nerve be lowered, the tendency is to paralysis, and the "preternatural stimulus" on which muscular contraction is said to depend will be lacking. In order that such a stimulus be forthcoming, so as to produce spasm or rigidity, there must be an increase of nervous action. There is no other alternative; for nerve-action is either at, below, or above its normal standard of activity.

Now, my contention was that, if the current theory of the production of spasm were true, the remarkable success of stimulants in obviating that state is inexplicable and the use of these agents at all, under the circumstances, would be hazardous, or fatal. My critic, in order to justify the treatment, abandons the theory he set out to champion; and, unable to prove that in functional disturbances of a paralytic kind, or that amid atrophy, degeneration, and disintegration of nerve-tissue, there is a possibility of increased nerve-action, he shuts his eyes to the "breach in the old theory," admits "a depraved condition" as the cause of the spasms, and triumphantly exclaims: "What is more reasonable than to give stimulants?"

The following quotation from Dr. C. B. Radcliffe, F.R.S., is here in point. He says: "My impression is that the cases of paraplegia in which spasm or convulsion of the legs is a marked phenomena, are those in which the disease has the effect of preventing the legs from receiving the nervous influence which they ought to receive continually from the great nerve-centres of the head and neck; that in fact this increased disposition to muscular contraction in these cases is analagous to that which is manifested in the hind legs of a frog or rabbit after the spinal cord has been cut across by a knife" ("Lectures," p. 235). He is here referring to the experiment of Dr. Brown-Séquard, mentioned by me on p. 483 of the Record.

THE ACTION OF ACONITE.

I have sought to explain the action of aconite by its paralyzing effect on the vaso-motor nerves, as a result of which the arterial muscle, finding its contractile power no longer restrained, closes in upon itself, excluding blood-supply and curing congestion. Mr. McGeffert quotes Dr. Ringer, rather disingenuously, however, in order to disprove this theory. Dr. Ringer says, "*so far as we may draw a conclusion from the scanty experimental evidence, it appears that* aconite does not affect the vaso-motor centre or nerves, and therefore the lessened arterial pressure it induces is due to its action on the heart." My critic omits the words here placed in italics, which materially modify the force of the opinion expressed.

Dr. Ringer, however, admits that "very diverse statements are made concerning its action on the nervous system." He even adduces evidence that it acts on the peripheral nerves, as shown by "the tingling and numbness" it occasions in the extremities; and that it acts also on the vaso-motor nerves, by "the visible effects" of its internal administration on inflamed tonsils, in which "the large, livid, red, glazed and dry" condition rapidly improves. This must be due to its local effect on the dilated vessels of the part, exercised through the vaso-motor nerves which control the calibre of these tubes, since it cannot be supposed that a sufficient degree of prostration of the heart's action as would be required to produce so speedy a cessation of the hyperæmia could be induced without alarming consequences to general innervation. And as a matter of fact, no material depression is necessarily produced on the heart in the cure of congestive states by aconite. That aconite does depress the heart's action, through its local vaso-motor nerves and intercardiac vessels, and probably also through the proper motor ganglia of the heart, is of course fully conceded.

How much more reasonable is the explanation given above than the wild hypotheses to which the theory of the day conducts its adherents. For example, Dr. Ringer alleges (of a profound paralyzer like aconite) that it sometimes "*excites* irregular heart action!" He also quotes certain authorities who assert that aconite "stimulates the inhibitory centre of the pneumogastric," and then paralyzes the terminations of this nerve. Now, there must be something radically wrong in a theory which necessitates such absurd influences, which, deprived of the glamour of a *quasi* authority, with which they appear invested, would be received with becoming distrust and incredulity, instead of tacit acquiescence, by the great body of the profession.

Dr. Fothergill holds that aconite "paralyzes the vaso-motor nerves," but, as according to the theory of the day, the function of these nerves is to *stimulate* the arterial muscles to *contract* (Dr. Brown-Séquard, "Lec.," p. 205), and vaso-motor paralysis is attended by vascular dilatation, he is driven to the conclusion that aconite "increases the capacity of the vascular system, and by this means drains the blood away from the inflamed organ;" in fact, this drug "bleeds the patient into his own vessels" (Dr. Ringer, "Ther.," p. 399). This would be a very dangerous process, and if it were really to occur, so far from proving curative, would be simply transferring the hyperæmia from one organ to another.

One way, and perhaps the best, to arrive at a knowledge of the action of aconite is to study typical cases of poisoning by that drug. Such a case is reported by Dr. Henry Thompson, of the Middlesex Hospital, in the *British Medical Journal* for November, 1872: "When admitted, the patient was in a state of extreme collapse," having swallowed one ounce of Fleming's tincture of aconite half an hour previously. His face was dusky and the skin cold and clammy. Amid general symptoms of paralysis "the heart was acting most tumultuously and in a churning manner, the systole and diastole remaining inseparable to the ear." After death "all the cavities of the heart contained black fluid blood, and on the right side were some loose black clots."

The "clutching at the throat," so often present in poisoning by aconite, is doubtless due to the sense of suffocation, arising from gradual arrest of circulation in the lungs, owing to contraction of the pulmonary arterioles. As a consequence the right ventricle becomes distended with blood, and is so found in death. The distention, also, of the left ventricle, in the case just referred to, points equally to obstructed circulation in the peripheral arteries, and hence the paleness, coldness, and lividity of the skin and extremities.

Dr. Fothergill says of aconite poisoning in the rabbit, "if the dose be large the heart is still found to have been *contracting strongly*, and after death it is found in systole. If the dose be smaller, and the act of dying is more prolonged, *then the heart fails too*, and is found in diastole" ("Antag. of Ther. Agents," p. 93). The fact of the "tumultuous" action of the heart, of its "contracting strongly" and remaining in systole in death, from *a large dose* of the poison, shows that the heart *muscle* is not "paralyzed." Here the cardiac ganglia, which expand the heart (as the antagonists of its muscle), succumb early, from the large dose, before time has been afforded for peripheral vascular contraction and arrest of circulation. On the contrary, this peripheral blood stasis occurs from the smaller dose, "where the act of dying is more prolonged," and the damming back of the blood in the great vessels and heart causes the mechanical arrest of the latter in diastole. The subsequent passing of the heart into rigor mortis is additional evidence that the cardiac muscle had not lost its "property of contractility."

When electricity fails to produce contractions in the heart after death by a paralyzing agent, it is because the motor nerves of the heart are already so deeply paralyzed that the paralysis of electricity can produce no further effect in setting free the contractile power of this muscle. So long as there is any nervous restraint maintained over a muscle, electricity can always produce a contraction. When nerve-force finally ceases, the power of electricity over the muscle is also at an end, proving that this agent is, in itself, no stimulant to muscle.

I hope the newness and abstruseness of the subject will excuse the length of this reply. I must ask to deal with facial paralysis (in reference to which I am also challenged), in a subsequent paper, in which I trust to be able, from authentic facts, to satisfy the candid reader that the real phenomena of this disease are fully explained and are entirely in accord with the theory I have ventured to advocate, to which the facts of facial paralysis lend a strong confirmation. Yours respectfully,

Thomas W. Poole, M.D.

Lindsay, Ont., June, 1880.

(We regret to state that the publication of this interesting letter has been delayed until the present, on account of the crowded condition of our colums. —Ed.)

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Iodide of Ethyl.—In Dr. Lawrence's article on this subject (page 689), 1st col., 14th line from bottom, there should have been a period after "produced."

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 18 to July 24, 1880.

Greenleaf, C. R., Major and Surgeon. Granted leave of absence for four months. S. O. 158, A. G. O., July 20, 1880.

Moseley, E. B., Capt. and Asst. Surgeon. Granted leave of absence for 20 days. S. O. 66, Dept. of the Platte, July 17, 1880.

Gibson, R. J., 1st Lieut. and Asst. Surgeon. Having reported at these headquarters, ordered to report to the Comd'g Officer, Fort Leavenworth, Kans., for temporary duty. S. O. 155, Dept. of the Missouri, July 19, 1880.

Taylor, A. W., 1st. Lieut. and Surgeon. Having reported at these headquarters, is assigned to temporary duty at Fort Supply, Ind. T. S. O. 155, C. S. Dept. of the Missouri.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending July 31, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
July 24, 1880.	0	10	28	3	11	38	1	0
July 31, 1880.	0	12	22	5	16	46	0	0

The Needy Widow of a Physician, having just lost her babe, desires a position as wet-nurse. It is perhaps unnecessary to ask any of our readers to help her in obtaining such a situation. Applications may be made through Dr. A. H. Smith or Dr. O. B. Douglas, 22 East Forty-second street, New York. Dr. Smith says he can vouch for her in every particular, and very properly adds that "it is a case which should interest every physician."

An International Veterinary Congress.—A national congress of veterinarians was held on the 8th of July, at Cureghemles, Bruxelles, to celebrate the fiftieth anniversary of national independence. Many prominent veterinarians from various parts of Europe were present. The congress lasted three days. Among the principal questions discussed were: Veterinary Deontology, The Inspection of Alimentary Animal Products, The Legislation of Redhibitory Vices (Veterinary Jurisprudence), The Organization of the Civil Veterinary Service.

Books Received.

Materia Medica and Therapeutics. By Chas. J. Hempel, M.D., and H. R. Arndt, M.D. Third Edition, Vol. I. Chicago: W. A. Chatterton.

A Treatise on Comparative Embryology. By Francis M. Balfour, M.A., F.R.S. Vol. I. London: Macmillan & Co.

Mellin's Infant Food. Fifth Edition. Boston: Theodore Metcalf & Co.

Original Lectures.

A CLINICAL LECTURE.

By CORNELIUS R. AGNEW, M.D.,

CLINICAL PROFESSOR OF DISEASES OF THE EYE AND EAR, IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

Case I.—Rupture of the Membrana Tympani.

Gentlemen:—Our first patient is Mr. Lynch, twenty-four years of age, who, three weeks ago, while "scuffling with a friend," received a "slight" blow over the right ear, with the palm of the hand. He felt at the time a ringing sensation in the head, and could hear very little with that ear. He had been deaf in the left ear nearly his whole lifetime, and he says the deafness was the result of catarrhal fever with whooping-cough. His right ear, during the three or four days that followed the blow over it, grew worse; hearing then improved a little, but since that time it has remained about the same, getting no better. After the accident he syringed his ear with warm water, which made it feel worse.

This watch which I hold should be heard to tick at a distance of forty-eight inches from the ear—that is, if the ear be in a normal condition. In making this test, it is better to begin at a distance, and bring the watch gradually nearer the head. It is also proper to have the eyes closed, so that you may concentrate the test upon this one sense. The senses are so related, the mentality of the senses is so complex, one sense aiding the other, that it is proper to shut off the sight. This is particularly true in the case of children. They imagine you want a certain answer, they see the watch and associate it with a certain ticking sound, and give you an affirmative answer, whether they hear it or not. They will do this after having seen the watch, even if you place it beneath your clothing, so that it cannot be heard at all. What is true of children is true, with some allowance, of older persons. The ticking of a watch is heard by our patient at a distance of six inches from the head, while the distance at which it should be heard is forty-eight inches. So, in recording the hearing distance of the right ear of this patient, we would write, H. D. R. $\frac{6}{48}$. The hearing of the normal ear would be written, H. D. $\frac{48}{48}$. Now we will test the other side, having our patient close his eyes and also his right ear. The watch, as you see is brought up so as to be in contact with the head, without the patient being able to hear it tick. He can hear the snapping of the finger-nails at a distance of two inches from the head, on the left side.

I wish now to have two gentlemen from the class examine this patient's ear, with Dr. Webster, by means of artificial light, and see what they have to report. The case is an interesting one, and one from which we may, I think, get some useful lessons in practice. Here we have one of Politzer's plates, giving us a view of the drum-head, as you look down upon it through the external auditory canal. This ridge running downward and backward toward the centre of the membrane, is the long process of the malleus. This cone-like reflection, which you see represented here, projecting from the end of the handle toward the periphery of the drum-membrane, is what is called the "light spot," and in the normal ear should have a distinct conical shape. Deviations in the shape of light spots are always noted by careful observers; they say "cone broken," or that it is "in position," or light spot "lighter," light spot "darker," light spot "diffused," light spot "small," or any qualification which will describe the shape or character of the light spot. When you look down upon the natural drum-head of a man at his time of life, you should expect to see the surface slightly inclined toward the anterior wall of the auditory canal, and resembling somewhat in tint gold-beater's skin. Over the malleus and at the periphery there may be a slight increase in the color, due to minute blood-vessels. These blood-vessels are seldom conspicuous enough to be seen separately in the normal drum-head. Sometimes, however, small vessels may be distinctly seen, but not extending upon the membrane itself. No obvious vascularity is normal, and in that respect the drum-head resembles the cornea. But now, when we look into this man's right ear, instead of finding this ridge running from the periphery of the drum-membrane, with a triangular light spot extending from its apex, you see a red surface, and that red surface is irregular. It is obviously the surface of the drum-head, but it is changed in appearance. The surface is red, and just here, behind the handle of the malleus, you will see a linear whitish surface in the midst of a red swelling, and it is very probable that this is a wound which was caused by the blow over the opening of the external auditory canal. We examined this patient in the other room, and we concluded that, at the time of the blow, the air was forced in through the external auditory canal with such violence as to have ruptured or torn the drum-head; and the redness which we find is due to traumatic inflammation. We have then a case of rupture of the membrana tympani of the right ear, from a blow, a thing which not infrequently occurs.

We will now speak of its treatment. When I asked the patient what he had done for his ear, he replied that he syringed it out with warm water soon after the accident. I then asked him if he had done it in accordance with the advice of any physician. He said no, that he did it on his own responsibility. My care in ascertaining this was because I did not wish, in my remarks, to cast any reflections upon treatment recommended by his physician, if he had any; for a medical man is always entitled to such doubts as may exist, and there are varieties of judgment. But, if the patient presumed to syringe his ear with warm water after the blow without professional advice, then we are at liberty openly to criticise the procedure as keenly as we like. He says that he syringed his ear with warm water after the blow. I do not think a much worse thing could have been done. I emphasize this procedure in order to condemn it. If I had been called in to see this patient immediately after the injury, and had been sure that rupture of the drum-head existed, I would have been careful not to introduce any substance whatever into the external auditory canal; such for instance as almond oil and the various other "drops" used for ears. Water poured, or thrown into the ear under such circumstances, might find its way into the drum-cavity, and there it would be a foreign substance. You see this remarkably in cases where the ear-douche is used. Many cases of suppurative otitis are due to such an occurrence. Water in the ear, even of a proper temperature, may lead to inflammation and abscess, and hence one of the objections to the use of Thudichum's douche, or any of the other forms of douches. Water is very irritating when in the middle ear, and if there be a rupture of the drum-membrane, when water is thrown in through the external auditory canal by means of a syringe, it will find its way into the middle ear and so do harm. This does not hold true in all cases of suppuration of the drum-cavity. The indication is to leave the edges of the wound in coaptation, unirritated by any foreign substance. There is no tendency to gape in a wound of this kind. On the contrary, there is a tendency to heal at once. You may demonstrate the existence of a perforation by means of having air whistle through under the pressure of Politzer's inflator, and yet find in the course of twenty-four hours afterward that healing has taken place and the aperture has closed. The proper thing is, then, to put a little cotton into the external canal loosely. Do not make a wad and stuff it into the canal; for, if you do, you will get up a certain amount of hyperæmia of the dermoid tissues, which help to feed the coming congestion of the drum-head. Instead of doing what is commonly done—taking a wad of cotton and thrusting it into the external auditory canal—take a small flock of cotton and lay it loosely in the canal, carrying it in just behind the tragus, so as to sift the air and keep off cold gusts of wind. You not only want to keep out such substances as water, but you wish to keep out cold air. Having done this, put the patient in a condition to use the organ of hearing just as little as possible, so as to give the wound a chance to heal. I do not think it would be good for such a patient to go to a concert, or to engage in an animated discussion, or be exposed to the noises of the streets. The organ should be allowed to rest, and should be watched. He will have some sensation of dulness in the ear, some sensation of deafness, some sensation of irritation, possibly pain, or, possibly some bleeding; if so, don't wash the blood out, but let it remain. If some of it should dry upon the surface of the drum-head, it will make a scab, and there is nothing better than a scab to protect it. If the drum-head is not much swollen, and is not, as we express it, angry-looking, let it alone and it will heal, probably, in the course of twenty-four or thirty-six hours. Now, suppose pain does come on, the drum-membrane looking red and angry, and the dermoid textures of the canal participating in the swelling, what would you do then? Here is another one of Politzer's plates, showing the external auditory canal, where one-half of the drum-membrane has been carried away, so that you may look into the auditory canal and cavity of the drum. Suppose that swelling has taken place, and the skin lining the external auditory canal has swollen so that you see less of the area of the drum than normal, what would you infer? That the process is going beyond what is normal and tending to healing, and is that of inflammation. Having observed this, the next step is to take blood from as near the seat of injury as possible; and, in order to do that, I would recommend that a leech be applied just within the external auditory canal, half an inch perhaps, at the base of the tragus. The way to apply the leech is as follows: take a little mass of absorbent cotton, and gently pack the external auditory canal with it, without inflicting any pain, and be sure that you leave the base of the tragus uncovered, for that is the point to which the leech is to be applied. Then take a cambric needle, or some other sharp-pointed instrument, and scratch the skin where you expect the leech to take hold, and then, with a leech-tube, apply the leech, letting it lay hold at the base of the tragus. Allow the leech to fill, and after it has dropped off take a large basin, or bowl, of hot water, and, having protected the shoulders of your patient, foment the part with a sponge dipped in the hot water, and so encourage bleeding from the bite for an hour or an hour and a half. The cotton prevents the blood from flowing into the external auditory canal, coagulating, and becoming a source of irritation. When the leech-bite does not stop bleeding, you may apply some styptic, as, for example, the persulphate of iron, upon cotton.

Having extracted blood in this way, you should give your patient a few hours of rest, and see whether this local depletion may not have accomplished the purpose desired.

If you have applied the leech in the afternoon, and there is still pain after free bleeding, it would be well to give an anodyne, perhaps eight or ten minims of Magendie's solution of morphia, as the case may be, and keep the organ awhile in a state of quiescence by placing over it a large bat of raw cotton. If, upon the following day, pain still continues, then you must begin to apply warm water to the external auditory canal, for by this time the edges of the wound will be so swollen that the water cannot get into the middle ear. The best way is not to throw it in with a syringe, but to pour it in from a spoon or sponge. By this time, as I have said, the wound will have healed, or its lips will be so swollen as to prevent the water from entering the middle ear. The leeching may have to be repeated. These are the simple rules to be followed in such a case of injury to the drum-membrane. Now, there was one test which I did not wish to apply here before the gentlemen were asked to see the case in the lighted room, and that is the test by the use of the Politzer bag.

I have here Politzer's inflator, which is simply a rubber air-bag, with a valve at its base for the introduction of air; and attached to this is a long black rubber tube, on the end of which is a hard rubber nozzle which fits the nostril. In order to use it, your patient is to take about a teaspoonful of water in his mouth, and hold it there until you tell him to swallow. The hard rubber nozzle is now introduced into the nose, and both nostrils firmly squeezed about it; then you tell your patient to swallow, and the moment you see the larynx move, squeeze the air-bag, which will force a column of air through the Eustachian tube. If there be a perforation of the drum-membrane, the air may be distinctly felt, passing out through the perforation, and a whistling noise will be heard. By this means I find that our patient has a perforation of the drum-membrane of the left ear, but none of the right ear. The perforation exists in the ear where the trouble has been for a long time. If we now had, as I have no doubt there has been, a perforation of the drum-membrane of the right ear, an experiment such as I have just tried would have given the sign of perforation. I would not have used the Politzer, had I been called in at the time of the accident, for it might have aggravated the trouble; but now, there is a sinking of the drum-head, and an inflation will elevate it and stretch any adhesions that may have formed. There is another method of inflation, which is known as Valsalva's, which consists in closing the nostrils with the forefinger and thumb, and causing the patient to blow from his own lungs up through the Eustachian tubes. This plan is not often employed, for there is an arrest of the venous circulation and congestion produced, which is unfavorable. We much prefer to employ Politzer's method, which does not increase the inflammation.

Case II.—Stillicidium lachrymarum.

Our next patient is a colored woman, who has been troubled with a watery eye for about a year. It is the left one, and the tears run over the edge of the lid whenever she looks down. There is no inflammation of the eye; in fact, nothing abnormal-looking about the upper or lower lid: but there is this constant stillicidium. There is evidently some obstruction to the nasal duct, and it should be probed. Our patient requests that this operation of probing should be done in her case under the influence of ether. The operation is so trifling a one, and the amount of pain so little, that I do not feel justified in complying with her request. (Exit patient.) I would be very sorry to give an anæsthetic under such circumstances.

Case III.—Injury of the cornea by a foreign body.

Our next patient is a gentleman who, one week ago to-morrow, received an injury to the cornea of his left eye from a foreign body. Dr. Webster tells us that yesterday he removed a foreign body from this patient's eye. His eye now looks red. The blood-vessels, which are unduly filled, are located near the inner canthus of the eye, in the conjunctival tissue. By looking sidewise at the eye we are enabled to tell, even with very little experience, whether the deep or the superficial vessels are the ones which are seen most prominently. In this case you can see the vessels branch in the layer of tissue immediately under your eye. By taking a probe with a little cotton upon the end of it, and, having dipped it in water, touching the tissue in which the vessels run, you will find that you can push it from side to side. You should learn in the examination of all diseased conditions of the eye to determine exactly in what tissue the abnormal condition exists. You should turn over in your imagination the various layers of tissue, as you would the leaves of a book, and in this way after a while you will be able to tell at a glance whether the inflammation be superficial or deep. If you will look at the lower edge of the cornea, you will see a little grayish abrasion, and that is the place from which the foreign body was removed. Now, suppose a case were brought into your office such as this was yesterday. Is any gentleman here prepared to tell me how he would proceed to remove it? One suggests a magnet. That is very good. But suppose you have no magnet? I will tell you of a very good method—one not usually described in books. Take a little stick, place upon one end of it a small pledget of cotton, and, after having moistened this, brush it over the surface of the cornea at the point where the foreign body is, and it will very likely be caught in the fine meshes of the cotton. Having prepared such a probe, the eyelid is drawn up against the superciliary ridge and the eyeball kept from rolling. Then, seeing exactly where the foreign body lies, you quickly brush over the surface, so impinging the cotton against the surface as to cause the foreign body to have a tendency to rise into it. In this way you may remove all foreign bodies not deeply imbedded. If you do as is so often done, namely, pick at the foreign body with a cataract needle, you may not get it out, and by your picking you may cause a great deal of pain. So I would recommend you to follow the directions which I have just given, which will answer in all ordinary cases. Suppose, however, that the foreign body is so deeply imbedded that you cannot get it out by means already cited. You can then take a cataract needle or a Bowman's spud so flattened at the extremity that it may be passed under the foreign body and tend to lift it out. You must be exceedingly careful not to injure the cornea, for that will impair the vision. Suppose there is a little mass of steel imbedded in the cornea, and you can see that it has gone through the cornea, so that the point of the steel is in the anterior chamber, and when you try to remove it you see a little leakage of the aqueous humor, then what should you do? You must get something back of the foreign body, or it will fall into the anterior chamber. You can do this by means of a Beers knife and under the influence of an anæsthetic. The eyeball should be steadied with a pair of fixation forceps, and the knife placed about a line from the body and perpendicular to the cornea. It should be carried right through the cornea into the anterior chamber, and then the blade of the knife turned and the handle depressed, so as to bring the point of the knife out beyond the foreign body, thus preventing it from falling into the anterior chamber. Thus you have the foreign body lying held in the cornea. It lies spitted upon the knife. I think I have been enabled by this method of procedure to pick out more than one foreign body and save the patient's eye.

Now, I do not think that eye-stones are of any value in removing foreign bodies from the eye. The only way they act is this. They are disk-like masses which tend to pass over to the inner canthus of the eye and there to discharge themselves. The advantage that the eye-stone is supposed to have is that it elevates the lid and allows the tears to wash the foreign body off from the surface of the eye. That might be an advantage in cases where simply a cinder got behind the upper eyelid, but this means is of no value in cases where the foreign body is imbedded in the cornea. It is a very bungling method, and I never use it. Now this man here will get well in a few days, I think. I would recommend that he keep the eye quiet and protect it as well as possible. The only thing I would use in the way of a wash would be a little table-salt in a little warm water, say a teaspoonful to the pint.

Bogus Diplomas.—Dr. Julius Hoffman of this city has complained to the Board of Health that a neighboring doctor is not a regular physician and is not entitled to practise medicine, for the reason that he has never graduated from a medical college, but held a fraudulent diploma. The diploma, the doctor claimed, purports to have been issued by the Berlin University. To establish a complaint he has shown a letter from the faculty of that institution denying that the physician complained of had graduated therefrom. Dr. Hoffman charges that the diploma was made in Chicago and sold for $10 to the present holder. The Board has referred the matter to Inspector Day for investigation.

Another case, showing, perhaps, the results of bogus diploma-mills, has been reported at Bradford, Pa. A so-called physician of that town put too much morphine in his prescriptions, and a patient is alleged to have died in consequence. He, as well as a drug-clerk, were arrested for manslaughter. The "doctor" is said to be a graduate of a bogus Philadelphia medical college.

Brooklyn Board of Health.—The Board of Estimate has cut down the amount asked by the Health Department from $48,000 to $18,000, which is certainly a mistaken piece of economy.

Original Communications.

NERVE-STRETCHING.

By J. H. POOLEY, M.D.,

COLUMBUS, OHIO.

I SHALL begin this paper by narrating the case which first drew my attention especially to the subject. It is as follows:

Dominick Monett, æt. 30 years. He was born in Canada, of French parentage, and removed to this country when four years of age. He is a brickmaker by trade. Eight years ago he was first attacked with sciatica, and for four weeks he was confined to bed, with intense pain in the right thigh and leg, and any movement of the limb gave rise to excruciating agony.

About four years ago his limb began to trouble him again, and since that time he has been lame about half the time, but still working at his trade whenever he was able.

The condition of his disease was, he thought, influenced a good deal by the weather, being worse in damp, cold weather, better in warm and clear weather. During the interval between his first seizure, eight years ago, and the present attack, he has been subject to sharp pain, with cramping sensation in the sciatic region, whenever he made a misstep or twisted his limb at all violently. These would last for several minutes, during which he would walk lame.

In September, 1879, he was compelled to stop work entirely. In February, 1880, he entered St. Francis' Hospital, Columbus, Ohio, and came under my care.

He had the ordinary symptoms of sciatica—pain along the course of the nerve, tender-points—puncta dolorosa—over the sciatic notch, the head of the fibula, and outer side of the dorsum of the foot. There was some wasting of the limb, with occasional spasmodic twitchings and considerable. paresis of motion; ordinary sensibility did not seem to be interfered with. No electrical tests were made. He was unable to walk except with crutches, and could only sit for a short time. He was easiest when lying on his side, with the affected limb drawn up. His pain was worse at night, being so severe as to deprive him of sleep, except with full doses of some opiate.

His general condition was remarkably good for a man who had suffered so much and so long.

For about three months a fair trial was given to all known methods of treatment, except the electrical, which, he said, had been tried before he came to the hospital, without any result—turpentine, purgatives, iodide of potassium, alkalies, quinine in large and small doses, cimicifuga, arsenic, etc.; hypodermic injections of morphia, atropia, chloroform, and ether; liniments of aconite, etc., blistering, and finally the actual cautery. Occasionally it would seem as though the right thing had at last been found, but the painful symptoms would soon return, and latterly with increasing severity. Finally, it was decided to stretch the sciatic nerve, and on May 12th I performed the operation. An incision about five inches in length was made just below the gluteal region, on the inner side of the long head of the biceps, and the nerve at once exposed without the least trouble, almost without dissection, and with the loss of only a few drops of blood.

The nerve seemed to be a little hyperæmic, but of this we could not be certain. It was not bound down nor adherent to the tissues around it. It was lifted out of its bed and forcibly stretched from both ends, so as to slightly lift the patient's foot from the table. During this process very distinct twitching of the muscles of the leg was noticed by one of the assistants.

A large-sized drainage-tube was introduced into the deeper part of the wound, which was then closed with sutures. Antiseptic precautions were carefully avoided.

May 13th.—The patient says although the wound feels very sore and pains him a good deal, the old shooting-pains have disappeared. He slept tolerably well last night. There is a spot of very marked hyperæsthesia along the outer surface of the leg, extending from the upper third to within three inches of the ankle; this spot is quite sharply circumscribed. There is no anæsthesia anywhere. The muscular paresis is rather increased; the limb, though easy when lying still, is painful on any motion.

From this time improvement was continuous and satisfactory. The circumscribed hyperæsthesia disappeared in a few days; pain ceased entirely; motion was gradually restored. In two weeks he sat up a little each day. The drainage-tube was removed in one week, and the wound dressed with adhesive strips and roller; there was scarcely any discharge from first to last, indeed the drainage-tube seems to have been quite a superfluous appliance.

By the end of the month he was well and up, pain gone, wound healed, still some weakness of the limb, but this is improving daily. He says he wishes he had had the operation performed three months before.

Nerve-stretching is not a very new procedure, having first been brought before the profession in 1872, by cases published in that year by Von Nussbaum and Billroth.

In 1877, Dr. Paul Vogt, Professor of Surgery in the University of Greifswald, published a small volume of eighty pages with the title "Die Nerven Dehnung als Operation in der Chirurgischen Praxis"—Nerve-stretching as an Operation in Practical Surgery. One chapter of this monograph is devoted by the author to the collection of all the recorded cases up to date. I do not undertake to say how complete this collection is—however, we are in the habit of giving the Germans credit for great thoroughness in such matters; suffice it to say, it only includes twelve examples of the operation, to which the learned professor adds three more of his own, all undertaken for the cure of tetanus, and in two of which the patients recovered.

Considering the gratifying measure of success which has followed the operation, we cannot help feeling surprised at the small number of recorded cases. I shall only be able to little more than double the list of Professor Vogt.

This arises in part, no doubt, from the three following circumstances: 1st. Cases demanding the operation are not very numerous. 2d. The indications for its performance are not as yet very well defined. 3d. No doubt many unsuccessful cases have not been recorded.

I will first present a résumé of such cases as I have been able to find, and then make such general remarks on the subject as they may suggest.

To begin with Professor Vogt's list, already referred to, they are:

1. Billroth (operation, 1869; published in 1872). Laying bare the sciatic nerve, and examining it with the finger. Nothing abnormal was detected. The spasm of the leg, for which the operation had been undertaken, completely ceased within three months of the operation.

2. Von Nussbaum (operation, 1872). This is the first published case. Laying bare and stretching the brachial plexus, on account of an intense neuralgia, of spasmodic contractions, and loss of sensation of the muscles of the arm. The operation was most completely successful.

3. Gärtner (1872). Laying bare and stretching the brachial plexus for a paralysis of thirty-four years standing. The arm was greatly wasted and the fingers contracted. Relief. Death in fifteen days.

4. Patruban (1872). Laying bare and stretching of the sciatic nerve for sciatica. Great amelioration.

5. Vogt (1874). Laying bare and stretching of the ulnar nerve, for paralysis and contractions, in consequence of adhesions with the nerve. Cured.

6. Von Nussbaum (1875). Laying bare and stretching of the tibial and peroneal nerves in a case of reflex epilepsy. Complete cure.

7. Callender (1875). Laying bare and stretching of the median nerve in the stump of a forearm on account of neuralgia. Cured.

8. Von Nussbaum (1876). Laying bare and stretching of the sciatic and crural nerves of both sides for central disease. Paralysis of lower extremities with clonic spasms, following on a fall eleven years before. Spasm entirely cured.

9. Vogt (1876). Laying bare and stretching the brachial plexus in traumatic tetanus following extensive injury to the hand. Cured.

10. Kocher (1876). Laying bare and stretching of the tibial nerve for traumatic tetanus. Result not given.

11. Petersen (1876). Laying bare and stretching of the tibial nerve for neuralgia. Cured.

12. Vogt (1876). Laying bare and stretching of the inferior dental for neuralgia. Cured.

13, 14, and 15. These are three cases of Vogt's, all for tetanus, two of them reported cured.

I will now add the cases I have been able to collect. I make no pretensions to completeness, as I have no facilities for a thorough investigation of the journal literature, where alone the requisite information is to be found.

16. Prof. E. Andrews, of Chicago (May 15, 1876). Probably the first operation of the kind in this country. Stretching of both crural and sciatic nerves, for painful tonic spasms of the lower extremities, the result of injury. Very great relief.

17. Dr. Drake, of Canada (1876). Stretching of sciatic nerve for tetanus, the result of a wound in the foot. Great relief to the symptoms, death on the thirteenth day, from neglect of the nurse.

18. Mr. Verneuil at La Pitié (1876). For tetanus, do not know what nerve was stretched, nor anything of the details. Recovery.

19. Dr. Macfarlane, of Kilmarnock (1877). Stretching of sciatic nerve for sciatica. Antiseptic precautions. Immediate relief and complete cure.

20 and 21. Dr. John Chiene (1877.) In *The Practitioner* for May, 1877, reports two cases of sciatica cured by stretching the sciatic nerve.

22. Eben Watson (1877). Traumatic tetanus, from lacerated wound of finger. Median, ulnar, and musculo-spiral nerves stretched. Death in two days.

23. Same surgeon (1877). Similar operation for tetanus from laceration of hand. Death in thirteen days.—*Lancet.*

24. Dr. Thos. G. Morton, of Philadelphia (1877). Stretching of ulnar nerve for traumatic neuralgia. Complete relief.—*Am. Jour. Med. Science.*

25. Same surgeon (1877). Stretching of sciatic nerve for traumatic neuralgia of foot. No relief. Subsequent cure from excision of two inches of the external popliteal nerve. (Same journal.)

26. Baum (1878). Stretching of facial nerve at stylo-mastoid foramen, for severe convulsive twitchings of the muscles of the face. Cured.—*Berliner klinische Wochenschrift.*

27. Annandale (1878). Stretching of the spinal accessory nerve for spasmodic wry neck, without any beneficial effect on the disease. The nerve was subsequently divided with the result of effecting a complete cure.

28 and 29. Mr. Nankivell, of Chatham, England (1878). Two cases in which the median nerve was stretched for traumatic tetanus. Both resulted fatally.—*Lancet*, March 2, 1878.

30. Dr. Manle Richardson (1879). Stretching of sciatic nerve for sciatica. Cured.—*Lancet.*

31. Langenbeck (1879). Both sciatics and right crural stretched for the shooting pains of tabes dorsalis. Complete relief of pain, and great improvement in the ataxic symptoms.—*Berliner klinische Wochenschrift.*

32. Kocher (1879). Exposure and stretching of the supra-orbital nerve for neuralgia. Complete cure.—*Correspondenzblatt für Schweizer Aerzte*, No. 14.

33. Klin and Knie (1880). Brachial plexus stretched for tetanus from compound dislocation of the thumb. Amelioration of symptoms; death in two or three days. —*St. Petersburg medicinische Wochenschrift.*

34. Pooley (May 12, 1880). Stretching of sciatic nerve for sciatica. Cure. Reported in this paper.

35. Dr. T. C. Hoover, of Columbus, Ohio (May 25, 1880). Stretching of left sciatic for painful spasm of the limb, the result of injury many years before. Relief. The nerve was divided into three trunks or cords, two of equal size, the third scarcely one-fourth as large as the other two. This case will be reported in full by the operator.

*36. Date and all particulars unknown. Callender stretched the external popliteal in a case of infantile paralysis in a child, the operation was not followed by any material interference with sensation in the parts supplied by the nerve.

*37. Callender, no date, case similar to No. 7. Cured, patient remained well fourteen months afterward.

I may add here, that Dr. Edward Lawrie has stretched the ulnar nerve in thirty cases of anæsthetic leprosy. In every instance the operation was followed by benefit, so far as the area supplied by the nerve was concerned.—*Indian Medical Gazette*, Sept., 1878.

We have here only thirty-five cases of all kinds, exclusive of the leprosy cases, a small number from which to draw any safe or legitimate conclusions; but inasmuch as it is the largest number that has been so far collected, I will venture to make it the basis of a few remarks.

In no case does it appear that the operation was the cause of death, unless it be in Case 3, and with regard to this my information is too meagre to enable me to decide. In only two cases did it fail to afford some measure of relief: Case 25, Morton's, traumatic neuralgia of the foot, which certainly does not seem to have been a very suitable one for stretching of the sciatic.

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* These were notices of cases I came across accidentally after paper was written.

In Mr. Annandale's case of spasmodic torticollis, No. 27, it failed, and subsequent neurotomy succeeded. This is all the more remarkable as neurotomy and neurectomy both have failed in this complaint. In a case of my own, neurotomy having been unsuccessfully performed by another surgeon, I succeeded in curing my patient by multiple myotomy. It is to be hoped that nerve-stretching may have a further trial in this singularly intractable affection.

We cannot help commenting on the fact that, beside the two new cases reported in this paper, the operation seems to have been done only three times in the United States. In the operations, as recorded in the foregoing table, we find that the following nerves have been stretched: the sciatic, sixteen times; the crural and the median, each five times; brachial plexus and ulnar, each four times; the tibial, three times; the musculo-spiral, twice; the supra-orbital, spinal accessory, facial, inferior dental, and peroneal, each once; making a total of forty-four nerves stretched in the thirty-five cases.

The operation has been performed for sciatica six times; for other neuralgias, seven times; for local convulsive affections, tonic or clonic, with or without pain, eight times; for traumatic tetanus, twelve times; for reflex epilepsy and the pains of locomotor ataxia, each once.

It will be a convenient and instructive method to take up each of these categories separately, and strive to appreciate the value and indications of the operation for each, before entering into any general remarks upon the *modus operandi* or other questions connected with the procedure of nerve-stretching.

In all the cases of neuralgia, except one, the operation has been beneficial, and in most of them the cure has been complete. In the exceptional case, No. 25, it seems very probable that if the nerve which was subsequently excised with success had been stretched in the first instance, instead of the sciatic, the result would have been favorable. The special form of neuralgia known as sciatica has yielded excellent results from nerve-stretching, which may now be regarded as a thoroughly recognized procedure in obstinate cases. Professional opinion seems to be steadily advancing in favor of the operation in other forms of neuralgia. Especially in the traumatic variety is it likely to prove useful, as here there are more generally found adhesions of the nerve to surrounding tissues which stretching may break up. In such cases it has been found not only to cure the pain, but also the wasting, shiny skin, and other trophic disturbances associated therewith. When we compare neurotony with the kindred operations of neurotomy and neurectomy, the result is decidedly favorable to the former, as it is applicable alike to sensory, motor, and mixed trunks, and is capable of effecting favorable changes in the central ganglia, which are almost entirely beyond the reach of the other operations. A critical synopsis of the various methods of treatment of facial neuralgia is given in "Schmidt's Jahrbücher," Bd. 184, No. 10, 1879, by Dr. Deahna, of Stuttgart, which concludes as follows: "Nerve-stretching has only been tried in a limited number of cases, but with invariable, immediate, and lasting good effect. Consequently it should be resorted to when treatment by electricity has been tried without success." Similar endorsement of the treatment may be found by other writers, as Blum, quoted in the *Lancet*, Callender, and Farrar, of Chicago, etc. So that from the clinical testimony before us, the authority of writers on the subject, and theoretical considerations, we are justified in believing that many hitherto intractable neuralgias will in future be found amenable to this operation. And it therefore becomes a necessity for all practical surgeons and physicians to become acquainted with it, that more numerous trials may settle it upon a firmer basis, and extend the sphere of its usefulness. And surely any one who has seen a really obstinate case of neuralgia will hail with pleasure so promising an expedient for its cure.

The triumph of nerve-stretching is little less marked in local convulsive affections than in pure neuralgias. These peculiar conditions, often brought about by injury, are, as every physician knows, extremely varied in their manifestations. The spasms of a clonic nature are often violent enough to deprive patients of sleep, and seriously interfere with health and comfort. The tonic contractions often produce complete disability, and entirely prevent motion. Pain, though not a constant symptom, may be present, either in a spontaneous form or only provoked by attempts at motion, which latter may be, as I have seen, terribly severe. In all the cases of this kind, except one, of spasmodic torticollis (No. 27) which our list presents, either a complete cure or very great amelioration was obtained. And it is in this class of cases that the most extensive operations have been resorted to—stretching of several nerves, and on both sides of the body—but no ill consequences have resulted to diminish the glory of the result. As in neuralgia, so here the testimony of clinical experience, so far as it has been accumulated, is an unequivocal endorsement of the operation.

In the twelve cases of traumatic tetanus for which the operation was done, seven of the patients died, four recovered, and in one the result is not stated. Although almost all the operators speak favorably, and some of them in strong terms, of the relief to symptoms following the operation, it cannot, on the whole, be said that nerve-stretching has demonstrated its value here as clearly as in the diseases already referred to. But in coming to a conclusion, many circumstances need to be taken into consideration. The disease is known to be one of very formidable mortality under all treatment. The nerve-stretching has been done in every case in conjunction with other and often very energetic treatment; so that, except in striking and immediate improvement, it has not always been possible to give honor where honor is due. There can be no doubt that, as the matter at present stands, a physician would be culpable who trusted to nerve-stretching alone in this disease, and I do not think that the cases where it has been done as an adjuvant to other treatment show any better average results than may be hoped for from the treatment by chloral hydrate and calabar bean, of which I confess myself a somewhat enthusiastic advocate.

In some peculiar cases, such as the following, which I quote from Mr. Callender, there could be no doubt of its propriety: "A child sustained a badly lacerated wound of the tissues at the back of the knee, and the external popliteal nerve was exposed and torn from its surroundings for an inch or more of its course. During the healing of the wound, this nerve was covered in by granulations, and was fixed by them to the parts around. As the child lay convalescing, the leg contracted upon the thigh, and, as we wished to avoid after-trouble from this cause, a stirrup was applied, and the leg was drawn straight by means of a weight in the usual way. The evening after this had been effected the child complained of pain in the knee, and the muscles of the leg repeatedly started. The next day stiffness, contraction, and spasm of the muscles of the extremity set in, and although the weight had been at once removed and the leg had been reflexed, these signs quickly infested the muscles of the trunk, well-marked tetanus was recognized, and the child soon after died."

I think every one will agree with Mr. Callender when he says: "I regret very much that the peroneal nerve was not exposed and stretched in this case."

Finally, if the operation is to be done in tetanus, it is obvious that it should be done at once, early in the case, before the spinal centre has been irretrievably involved in the reflected irritation.

In a well-marked case of reflex epilepsy, where no definite local cause, such as foreign body, contracted scar, etc., could be found, or, if found, should prove irremovable, nerve-stretching, if practicable, is clearly indicated.

The one case in which it was performed for the neuralgia of locomotor ataxia is very interesting and suggestive. That it should have benefited the neuralgia might have been expected, but the marked benefit to the ataxic symptoms which is reported is quite remarkable. In any case of severe neuralgia in this disease the operation should be repeated, and if it be found that in repeated cases the ataxic symptoms also yield, it may become a valuable resource in this most inveterate complaint. I find a mention, the barest, in one of the supplementary cases (marked *), which I accidentally came across since this paper was written, of the operation being done in a child for infantile paralysis, for severe contractions following it, I imagine. This may be another field of usefulness for nerve-stretching.

The *modus operandi* of nerve-stretching has not yet been satisfactorily settled.

I shall say nothing about it, for I have nothing new to offer, and merely to repeat what others have said is quite unnecessary when addressing the members of a learned profession.

Of the technique of the operation I have only to remark that it will, of course, vary somewhat in different cases, and may be safely enough left to the surgeon to settle for himself. The operation is of itself quite innocuous, no harm having ever followed it, as far as I know.

Listerites will be Listerites till the fashion changes, but I will point them to the fact that in one of the reported operations where antiseptic precautions, so-called, were observed, there was free suppuration, while in mine, where they were avoided, there was scarcely any.

THE CORNER IN OPIUM.—The rumor of a prospective corner in opium, to which we referred some weeks ago, is again being circulated. The New York Syndicate is said to have purchased more than half of the 2,000 or 2,500 chests which constitute this year's short crop, and the price is said to have gone up from $4 to $4.50. Our large drug dealers, however, do not seem to be much alarmed; there is a prospect that the "corner" may fail; and at any rate, it is not thought likely that the drug will be run up to any very high figure.

THE UNITED STATES PHARMACOPŒIA OF 1880.

THE METHOD OF CONSTRUCTING FORMULÆ IN PARTS BY WEIGHT, AND THE PHARMACOPŒIAL WEIGHTS AND MEASURES.

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THE Sixth Decennial Pharmacopœial Convention of the United States, by a close vote, adopted "parts by weight" as the mode of expressing the proportions between the several ingredients in the pharmacopœial working formulæ, and thus virtually abolished fluid measures. The writer opposed this change, which he believes was made without reasonable assurance that it will be acceptable to a majority of the pharmacists and physicians of the United States. There will be a grave irrelation between the new pharmacopœia and the prevailing method of writing prescriptions, unless, indeed, physicians will at once surrender our valuable, convenient, and rational fluid measures, and prescribe exclusively by weight—an expectation which will probably not be fulfilled. The arguments used in favor of the new method will here be reviewed:

1. Greater accuracy is claimed for weighing as against measuring, because temperature affects volume, and because undoubtedly we can approach theoretical precision more closely with a sensitive balance than with graduated volume measures.

But both of these theoretical objections to the use of measures, where accuracy is important, do not apply with any force in reference to pharmaceutical manipulations. In fact, a practical view of the question cannot fail to convince any unprejudiced mind that they are the merest trifles, and not worthy of consideration in this connection.

The temperature maintained in the dispensing pharmacy or in the laboratory is generally subject to a variation of but a few degrees' range. Nearly all the operations of weighing and measuring are carried on at a temperature between 60° and 80° F., and the utmost extremes possible are within 50° and 95° F. Water and alcohol make up the bulk of most of the liquids used, and, moreover, fairly represent the extremes of expansion by heat of the liquids measured in pharmacy. The following table, from Péclet's "Eléments de Physique" (see "Fowne's Chemistry"), gives the variable expansion of liquids by heat, and contains the extremes of variation *between the freezing and boiling point of water:*

Apparent dilatation in glass between 0° *and* 100°.

Water	$\frac{1}{22}$
Hydrochloric acid, sp. gr. 1·137	$\frac{1}{27}$
Nitric acid, sp. gr. 1·4	$\frac{1}{9}$
Sulphuric acid, sp. gr. 1·85	$\frac{1}{17}$
Ether	$\frac{1}{14}$
Olive oil	$\frac{1}{12}$
Alcohol	$\frac{1}{9}$
Mercury	$\frac{1}{64}$

The greatest expansion is shown in alcohol, and amounts to $\frac{1}{9}$ in 100 degrees, or $\frac{1}{900}$ of its volume for each degree of the centigrade scale! From 10 to 35° C. (50° to 95° F.) the extreme possible variation would be $\frac{25}{900}$, or 2·77 per cent., and from 16° to 27° C. (60·8° to 80·6° F.) it would amount to $\frac{11}{900}$, or 1·22 per cent.! This is the extreme limit of the liquid subject to the greatest expansion. The extreme expansion of water between 50° and 93° F. is less than one-half per cent. But what is the greatest *probable* variation of volume under the conditions affecting the ordinary operations of measuring in pharmacy? The writer does not believe that it exceeds, in any case, one per cent. But let us suppose it to be two per cent. Will any one seriously claim that a possible variation of two per cent. can produce any appreciable effect therapeutically—for that is, of course, the only question worth discussing? Who would be able to discern any difference between the medicinal activity of a tincture made of 10 ounces drug to 100 ounces menstruum and the medicinal activity of the same tincture diluted with one or two ounces more of the menstruum? I do not think it possible to distinguish between the two *in any way whatever*, and yet this is a fair statement of the maximum variability possible when liquids are measured instead of weighed.

Who would say that the same system which is so satisfactory in volumetric chemical analysis does not afford sufficiently accurate results in pharmacy? Practically, for pharmacal purposes, measuring is quite as satisfactory as weighing, provided reasonable care is exercised. *Without care, weighing is worse than measuring.* As soon as the equilibrium of the balance is destroyed and the scale goes down, how can it be known, except by guessing, what the excess is? It is *not* known. On the other hand, in pouring a liquid into a graduated glass measure, if an excess is added, it is plainly seen, and the operator knows at a glance whether or not the error is of sufficient magnitude to require correction. *With* ordinary care, the errors in measuring, and the liability to error, are too trifling to condemn the system, provided *accurately* graduated measures are employed. Even the concavity or convexity of the surfaces of liquids arising from capillary attraction in the process of measuring them, can readily be allowed for; and to reject fluid measures on their account is a refinement uncalled for in pharmacy, especially when we consider that ordinarily the operation of weighing does not insure any greater accuracy. *Dropping* is far from accurate; yet it is nearly as accurate as weighing when the quantity is very minute; and dropping is resorted to even by the warmest advocates of the exclusion of measures.

It is further argued that inaccurate and badly made graduates are on the market, and that therefore measures should be abandoned. But inaccurate weights are quite as common. Is it likely that pharmacists who make it their duty to verify their weights, will fail to verify their graduates also? No; those who do not verify their measures will not verify their weights and their scales. Accurate graduates and accurate weights are both readily obtained.

The argument (actually used in the Pharmacopœial Convention) that the copper and tin measures used in the laboratory are frequently dinged out of shape and thus rendered inaccurate, does not seem to require any reply.

2. It is claimed that "parts by weight" is applicable to any or all weight units.

This is a plausible, but valueless argument. Which would the practical pharmacist rather have—a formula giving the definite quantity to be used of each constituent in producing a fixed quantity of the final product adjusted to the probable wants of a large number of pharmacists, or a formula such as the one given for comp. syrup of the phosphates, on pp. 143, 144 of the "Report of the American Pharmaceutical Association on the Revision of the Pharmacopœia"? In using the former we can at once determine whether we want to make all of it, or half of it, or twice as much. In using the latter we find eighteen separate numbers given, representing parts by weight, the last one being 3,250 parts, representing the final product. What pharmacist wants 3,250 pounds, ounces, drachms, grains, or grams of that preparation? Not one in ten thousand. After trying in vain, then, to substitute any one of our weight units for the word "part," to arrive at a suitable amount of final product, we are obliged at last, in order to be able to use the formula constructed in parts by weight, to transpose it practically into the same kind of a working formula that we have in the present pharmacopœia, except that weights are substituted for measures, and the fraction or multiple required of the quantity of final product thus expressed is more likely to be complicated, unusual, or inconvenient, than simple.

It is said that a formula in parts by weight is more readily understood, for purposes of comparison, by pharmacists in different countries, where different systems of weights and measures are used, than a formula in troy or metric or other fixed units. Any supposed advantage on that score is not worth making any sacrifice for. The comparison can be made one way as well as another, and is convenient only when the final product, or the number of parts representing the latter, happens to be the same, or with the same system of weights and measures.

3. Greater clearness is attributed to formulæ in parts by weight, as compared with formulæ in definite quantities.

This claim is unwarranted unless the total (final) product be an even one hundred or one thousand parts, so as to make the percentage of active constituent at once apparent. But unless that percentage is expressed by a simple number, so as to be easily remembered, it is of no value. The physician principally needs to know or learn the *posological strength* of the drug and its preparations, and the percentage or proportional strength is of no consequence to him, except as a means of determining its posological strength. That the dose of liquids should be stated and known by measure and not by weight will be presently shown.

If the final product is one hundred or one thousand weight units, it does not matter whether these units are called parts, or ounces, or grains, or grams. The result is precisely the same so far as clearness and convenience are concerned.

4. The friends of parts by weight point to some of the leading pharmacopœias of the world for precedents.

When "parts by weight" was adopted in Germany, Sweden, and other countries, *fluid measures were not thereby abolished*, for they did not have any to abolish. Fluid measures were not sanctioned in pharmaceutical operations in those countries, and were used only in straining decoctions and infusions, and in selling common liquid drugs and preparations over the counter, without prescription. The adoption of "parts by weight" in those countries was, therefore, not the parallel of the adoption of that method in this country.

Because it is susceptible of demonstration that, at least theoretically, gravimetry is more nearly perfect in its results than volumetric methods, the continental European governments prescribed that all quantities in medicine, whether liquid or solid, must be determined by weight, and measuring was prohibited. With this mandatory law there could be no demand for graduated measures, and consequently no supply of them such as alone could afford the opportunity for a fair practical test of the volumetric system for general pharmaceutical purposes. If the pharmacists of the European continent, who thus never used fluid measures except unofficially or in a very crude way, could only obtain a thorough practical familiarity with their advantages and real practical accuracy, I believe that, had they the freedom we enjoy in America, they would not be slow to adopt them and to use them as freely as we do. It would have been wiser for us to expect them to adopt our exceedingly convenient and sensible system, than to incontinently abandon fluid measures for the sake of international uniformity.

European chemists, who surely may be credited with the most scrupulous accuracy, do employ fluid measures in quantitative analysis, their employment for that purpose not being forbidden.

5. Probably the weightiest reason for the adoption of parts by weight in the recent convention was the conviction that such action must inevitably lead to the adoption of the metric system.

This, I grant, is logical, and it is unnecessary for me to say that I greatly desire the adoption of the metric system, believing it to be the best, the most rational, labor-saving, convenient, and easy of all. But I am as earnestly convinced of the great value of fluid measures in medicine and pharmacy, as of the value of the metric system.

Many of the advocates of "parts by weight" in the convention informed the writer that they voted for that method chiefly because they wanted the metric system adopted, fearing that the open and unconditional adoption of the metric system could not be carried through the convention, or, if carried, would not meet with popular favor. They argued that a large number of pharmacists who are decidedly opposed to the adoption of the metric system would not oppose the adoption of "parts by weight" as a sort of compromise, because it is generally believed that the old system of weights (and measures) can be applied in using formulæ in parts by weight as conveniently as the metric system. The truth is that the metric system is the *only* one that can be *conveniently* used in that connection, and what will be the reception given by the great body of physicians and pharmacists to the method adopted will not be rightly appreciated until after the new pharmacopœia shall have been issued.

Many earnest friends of the metric system seem to think that volumetric methods are not consistent with it, and that if the metric system is adopted we should naturally dispense with fluid measures. This is a misunderstanding. We can very properly adopt the metric system, measures and all, as has been done in the marine hospital service. The writer, for one, would rather retain the old system of weights and measures, than adopt metric weights without the privilege of using metric measures also.

The real difficulty is that the majority of physicians and pharmacists do not yet sufficiently understand the question in all its bearings, are not prepared to decide it for themselves, and thus could not make their wishes felt in the Pharmacopœial Convention. That this radical change was in May last for the first time discussed in any large assembly of representative physicians and pharmacists cannot be successfully gainsaid. That it was *not discussed* in the Pharmacopœial Convention of 1870 is well known, and notwithstanding its adoption (on paper) by that convention the matter has not received general and careful attention since, because the Committee of Revision did not carry it out, and in ten years it was forgotten.

When the new pharmacopœia (1880) is issued, the question will be brought home to the professions in such a way that they cannot help taking due notice of it, and they will have an opportunity to subject the new system to a practical test extending over ten years, so that in 1890 we shall have an intelligent vote upon it, based on experience. The writer predicts that a thorough sober consideration of all the points involved will yet lead a large majority to the conclusion that the adoption of "parts by weight" and the abolition of fluid measures were mistakes. Among the points which did *not* receive consideration in connection with the change are these:

Medicines are prepared for the sick. A very large, if not the larger, number of medicines prescribed are liquids. Liquid medicines are of necessity administered to the sick by *teaspoonfuls, tablespoonfuls*, or some other convenient *measure*—never by *weight*. Hence the physician should know the dose by *measure.* To know doses by measure intelligently, he must have preparations the *strength* of which is determined *volumetrically.* He does not care to know how much of the active constituent there is in a certain *weight* of a fluid extract, or a tincture; but he wants to know how much there is in a certain *volume* of it, for between himself and the person who takes or administers the mixture, weighing is out of the question. If the formula itself does not furnish the information he wants, he must either resort to a tedious and often difficult arithmetical process to obtain it, or guess at it, or fall back upon a table already prepared for him.

Are the physicians ready to surrender the pharmacopœia? Or are they content to simply prescribe what drugs and preparations shall be officinal? If there are those who care so little for the pharmacopœia, this paper is of no interest to them. But the writer believes that physicians also should know and control the *strength* of the preparations, and desire to have the work so constructed as to be at once intelligible and readily consulted with reference to the amount of active matter in any given dose they may prescribe. Unless liquids are prescribed by volume in the official formulæ, and the amount of the final product of each formula determined by measure, the pharmacopœia will be practically useless to the physician.

The first thing thought of by the physician, when about to write his prescription is, I believe, how many teaspoonfuls or tablespoonfuls, do I want to have put up? After settling that point he constructs his prescription accordingly. But how is he to get a certain number of teaspoonsfuls if obliged to prescribe exclusively by weight? That it is *possible,* we grant; but it is difficult and awkward. Common sense teaches that the most *direct, convenient,* and *accurate* way to get at a certain quantity *by measure* is to *measure* it out—not to *weigh* it. How inconsistent to exclude measures on the ground that they are less accurate than weights, in the face of the fact that to prescribe *by weight* definite *volumes* of tinctures, syrups, spirit of nitrous ether, fluid extracts, etc., is practically impossible to be done with accuracy unless much more labor is given to the construction of the prescription than busy physicians can afford to bestow on that feature of it. To this difficulty must be added the fact that, with fluid measures abolished, doses must be learned over again with no convenient landmark at hand for the correction of possible errors.

To be consistent, medicines prepared in proportions by weight only should be both prescribed and administered by weight also. The physician is now invited to choose between two evils—he must either prescribe by weight, or practically ignore the pharmacopœia.

In a fruitless effort at perfect accuracy, the pharmacopœia has been removed from the physician's control, and handed over to the pharmacist, and there is now no connecting link between the preparation and prescribing of liquid medicines—unless physicians agree to abolish fluid measures, too, or the pharmacists readopt them.

The same common sense which dictates that liquid remedies are best *administered* by measure, taught the eminently practical English-speaking peoples to *prescribe* them by measure also, and finally to *prepare* them by the same rule, thus establishing harmony throughout. Continental Europe is behind England and America in this respect; but, for the sake of uniformity, we are now required to step back.

The report of the American Pharmaceutical Association on the revision of the pharmacopœia may be said to fairly represent what the new pharmacopœia is to be with reference to the statement of proportions in the working formulæ. The physician who can consult that work, and ascertain, in a reasonable space of time, the quantity of active constituent in a teaspoonful dose of either of the liquid preparations, must be an unusually good mathematician.

As to convenience, there is no comparison between weighing and measuring liquids. As a rule, to weigh them is a slow and awkward process. Even the best friends of "parts by weight" concede that to withdraw the receiver from under the percolator from time to time to ascertain by weighing when the percolation has proceeded far enough, would be too troublesome, and their remedy for it, as seriously recommended in the convention, was *to graduate the receiver, and then measure the weight required!*

Finally, the gentlemen by whose votes "parts by weight" was adopted, still seriously doubt the propriety of including fluid extracts under this rule, and these preparations were left to the discretion of the Committee of Revision. The writer is at a loss to find any tangible reason for determining the strength of fluid extracts volumetrically, which does not apply with equal force to all other liquid preparations; but if any good reason exists why exceptions should be made, the rule was hardly worthy of adoption.

The question is, however, settled for the next ten years to come, and it behooves us all to do our best to fairly try the adopted standard. Pharmacists should scrupulously carry out the requirements of the new pharmacopœia in all its details, so as to prepare themselves to say, in 1890, whether they will continue the exclusively gravimetric system, or readopt fluid measures. Physicians who wish to be in perfect harmony with the new pharmacopœia, will, of course, write their prescriptions exclusively by weight, making careful allowance for the practical bearings of the relation of weight to volume (especially in mixtures), in order to properly adjust the dose. Those who continue to prescribe by measure are warned that necessarily the preparations of the new pharmacopœia will not be identical in strength with those of the old, and that in some cases the difference will be so great as to require attention, so that a new posological table, adjusted to the new pharmacopœia, will be greatly desirable. Finally, the system of weights and measures to be used should be uniform, and adapted to the new order of things. As "the relationship between the weight and the measure of a given volume of any liquid preparation" will be a matter of concern, we want a system of weights and measures in which that relationship is at once expressed in the specific gravity. It is, in other words, inevitable, that to put our practice in harmony with the new pharmacopœia, we must adopt the metric system. Fortunately, there will be in the new pharmacopœia a "weight and volume table, to facilitate the use of parts by weight (or, of the decimal system) in compounding, prescribing, and dispensing medicines." (See the instructions of the Pharmacopœial Convention to the Committee of Revision and Publication.) There will also be a table showing the differences in strength between the preparations of the new pharmacopœia and those of the old. These two tables will, doubtless, be the most valuable part of the book to physicians.

Should, after ten years' trial, the physicians and pharmacists desire to continue the method of "parts by weight," the writer will completely change his mind. Should they, however, find that they would rather have fluid measures, and send delegates to the next pharmacopœial convention who will vote to readopt fluid measures, it is hoped that the failure of parts by weight may not be laid to the charge of the metric system. The metric system, so Americanized and simplified as to make it quite easy for any and every one to understand it, know it, and at once use it, would probably have proved far more acceptable to a majority of physicians and pharmacists than the adoption of parts by weight. The greatest bugbear in the way of the adoption of the metric system is, that the numerous *foreign words* and *prefixes* we must learn are troublesome. But this objection is easily disposed of. The metric system does not consist of these many words and prefixes, *which we do not need to adopt at all.* At the very utmost, we would have to learn *four* new units: two for weights, and two for measures. But, in fact, only two of these four are important. One is the GRAM, equal to about 15 grains, or ¼ drachm; and the other the (cubic centimeter, which, as suggested by Mr. Alfred B. Taylor, should be called a) FLUIGRAM, equal to about 15 minims, or ¼ fluid-drachm. For large quantities we might use the KILO and the LITER; but the only necessary units are the gram and the fluigram. The question really resolves itself into this: Is it too much or too difficult to remember that one gram is the fourth part of a drachm, and that the fluigram is the fourth part of a fluid-drachm, and to use these units accordingly? We would then have:

1 kilo equal to 1,000 grams,
1 liter equal to 1,000 fluigrams,

and

1 gram equal to ¼ drachm,
1 fluigram equal to ¼ fluid-drachm.

With the metric system thus Americanized, and *fluid measures retained in it,* we would be in perfect harmony with the rest of the civilized world, and greatly in advance in the practical convenience and accuracy with which we could compare the dose administered to the patient with the strength of the preparation as shown in the officinal formula.

CENTRAL KENTUCKY LUNATIC ASYLUM.—Dr. Geo. T. Erwin, formerly of Danville, Ky., has been appointed Assistant Physician to this institution.

NOTE ON THE ERRORS OF CLINICAL THERMOMETERS.

By LEONARD WALDO, S.D. (Harv.),

ASTRONOMER IN THE OBSERVATORY OF YALE COLLEGE.

I am in receipt of inquiries from members of the medical profession, which betray such ignorance regarding the amount of error to be expected in the clinical thermometers sold by the dealers, that it seems proper to indicate in a general way the errors actually found to exist. I do this with some reluctance, because it seems an injustice to makers who are already making more accurate instruments under the encouragement of our observatory; yet as there must some time elapse before certified thermometers will be in general use, and as, meanwhile, many temperature observations will be made which are important, I think there should be some warning given that, without specific knowledge to the contrary, the thermometers in general use are not to be relied upon within one-half degree Fahrenheit.

Of course I except from this statement those instruments which have a Kew certificate not more than six months old; and if the age of the thermometer could be ascertained to have been one or more years when it was verified, then the verification would hold good for a longer period.

Here, for example, are the corrections of two Casella thermometers of excellent construction:

Correction at	Casella, 37,199.		Casella, 37,200.	
	Kew Observatory, December, 1878.	Yale Observatory, June, 1880.	Kew Observatory, December, 1878.	Yale Observatory, June, 1880.
90°	−0.1°	−0.5°	−0.1°	−0.5°
95°	−0.1°	−0.5°	−0.1°	−0.5°
100°	−0.0°	−0.4°	−0.0°	−0.4°
105°	−0.0°	−0.4°	−0.1°	−0.5°
110°	+0.1°	−0.3°	−0.1°	−0.5°

which indicates, since the Yale comparisons were made with Kew standards, whose errors were independently found at Yale to be as they were stated to be at Kew, that the Casella clinical thermometers had increased their readings 0·4° in the eighteen months elapsing between the two comparisons. It is an accepted fact that mercurial thermometers, at the temperatures used in medicine, always increase their readings with age, and much more rapidly in the first few months after the tubes have been made than at any subsequent time.

It is very much to be desired, therefore, that the tubes to be used for thermometers should first be filled with mercury, and then laid aside for two years before they are finally graduated.

It has been suggested that the observatory not only verify thermometers, but that it receive the ungraduated thermometer-tubes, and after registering the numbers in them, seal them up in packages for the space of two years. That for such seasoned thermometers the observatory issue a certificate stating not only the usual scale of errors, but also that they were properly aged before graduation. Such thermometers would change their errors but slowly, and ought to command enough higher price to justify the dealers in the trouble taken.

As far as the observatory is concerned there is no objection to such a procedure.

To show the errors commonly existing in clinical thermometers, I have selected the readings of sixty-eight thermometers verified in June of this year. Since each thermometer had its errors determined at five points of its scale, 90°, 95°, 100°, 105°, 110°, (except a few which were graduated from 95° to 110°), we have about three hundred and twenty separate points upon whose errors we can base an estimate of the thermometers in general use. Seven different (and leading) makers, domestic and foreign, are represented in the thermometers used. An analysis of all the readings shows that—

19 per cent. of the readings are within 0.1° of the truth.
8 " " " " between 0.1° and 0.2° in error.
7 " " " " " 0.2° " 0.3° "
7 " " " " " 0.3° " 0.4° "
13 " " " " " 0.4° " 0.5° "
20 " " " " " 0.5° " 0.6° "
9 " " " " " 0.6° " 0.7° "
8 " " " " " 0.7° " 0.8° "
6 " " " " " 0.8° " 0.9° "
1 " " " " " 0.9° " 1.0° "
2 " " " " in error more than 1.0°.

Occasionally the observatory receives a thermometer which is evidently wrongly graduated by an even 5°, and this provokes the suspicion that there may be such sometimes sold.

It is not difficult to trace the causes of the discrepancies given above; one is the too early graduations of tubes before they are seasoned, and another is the use of a standard for graduation which has itself become too high in its readings with age. There is no direct way of determining the errors of clinical thermometers themselves, since neither the boiling nor the freezing points are indicated in their stems; and even the possession of a standard with which a thermometer is to be compared is not very helpful, unless the observer has the means of determining the fiducial points of the standard, and is perfectly sure of the errors of calibration. It is much better to send clinical thermometers to some recognized observatory and obtain an investigation of its errors. So firmly is this view rooted in the medical mind in England, that in 1879 some 3,400 clinical thermometers were verified at Kew alone.

It is now pretty generally known, at least among the New England members of the medical profession, that the new observatory of Yale College has undertaken to afford to physicians an accurate statement of the errors of clinical thermometers sent to the observatory for such a purpose. This work has but fairly commenced, yet that it will be an important public service is already abundantly shown by the hearty response made by the profession and the American thermometer makers to the inquiries instituted by the observatory Board regarding the expediency of such an establishment. It is in general after the plan of the Kew observatory in England, and a descriptive circular has been prepared for distribution.

Dr. Manley Emanuel, who resided in Philadelphia for ten years past, died at his residence, No. 1,324 Green street, that city, recently, aged eighty-six years. He was president of the Delaware County Medical Society for sixteen years in succession, and also of the Board of School Directors. In addition to these, he was at one time United States examining surgeon for pensioners, and a justice of the peace. He was graduated from St. George's Hospital, London, in 1816, and became a fellow of the Royal College of Surgeons.

Reports of Hospitals.

COOK COUNTY HOSPITAL, CHICAGO.

Notes of Practice and Treatment.

Case I.—*Uræmic Convulsions in Bright's Disease—Hypodermic Injections of Chloral.*

John McC., æt. 23, admitted to hospital under care of Dr. Bridge, April 9, 1880. The patient had been addicted to the use of alcoholic beverages, in quantities more than moderate for the past three or four years, but had always enjoyed good health. Three weeks before he caught a severe cold; the week following noticed the body was anasarcous; had slight dyspnœa; annoying pains in lumbar region; frequent micturition and headache.

When admitted the heart and lungs were normal. Urine, sp. gr. 1014; acid, abundantly albuminous, smoky and pale brown; tubular epithelium in granular condition, and casts in great quantity. Was given milk diet and the following:

℞. Auri et sodii chloridi......... gr. i.

M. et fl. pil. No. xxx. S.—One pill four times a day.

April 15th.—This a.m. had convulsions; recovered in five minutes, and soon had a second, more prolonged and characterized by nystagmus, frothing at mouth, biting of tongue, rigid neck, and slight opisthotonus.

At 10 a.m., another convulsion, in which the tonic stage was well marked; opisthotonus extreme, face and hands cyanotic. Convulsions to the number of ten or twelve followed in quick succession; consciousness was not restored between them.

Dr. B. arrived at 11.20 a.m., and at once administered chloroform, by inhalation, to control spasm.

At 12.05 he injected hypodermically 8 grs. chloral hydrate, in solution with water; 12.30 p.m., injected 8 grs. chloral; 1.10, is slightly conscious and answers questions; 2.00, injected 10 grs. chloral; 2.25, injected 5 grs. chloral; 3.00, injected 5 grs. chloral, which seemed to abort a threatened convulsion; 3.40, injected 5 grs. chloral; 4.10, injected 5 grs. chloral; 5.15, injected 5 grs. chloral; 7.30, patient was put in hot pack; 9.15, patient took by mouth ʒ i. ext. Jabor. fl.; 10.10, injected 5 grs. chloral. Is perspiring profusely. Drinks large quantities of water. Put on another hot blanket.

April 16th, a.m.—Feeling well; is quite talkative. Remembers little of the day previous.

℞. Ext. Jaborandi fl.
S.—ʒ ss. every three hours.

This quantity was taken for one day, then ʒ ss. three times a day was given until five ounces had been taken, the drug causing no derangement of digestion and producing only moderate diaphoresis. Pulv. Jalapæ comp. ʒ i. was given each night. Pills of chlor. of gold and sodium also continued till May 26th, when a careful examination of the urine showed no albumen, casts or epithelium; the œdema had disappeared, and patient, who had been rapidly regaining his health, was discharged.

The solution of chloral was of the strength of eighty grains to the ounce of water. The injections were made mostly in the arms and legs.

No phlegmons or abscesses formed at any of the points of introduction of the medicine. In all, fifty-six grains of chloral were injected under the skin.

Case II.—*Hypodermic Injections of Hydrate of Chloral for Delirium Tremens.*

John A., was admitted at 10 a.m., after suffering four days from delirium tremens. Pulse 120 and feeble.

Was given by the house physician Tr. digitalis ʒ i., and, hypodermically, 15 grs. chloral hydrate, within fifteen minutes after admission.

At 11.30 a.m., gave by mouth 60 grs. bromide of potassium, and continued the doses at intervals of three hours during the remainder of the day. Also took Tr. digitalis ʒ i. every three hours.

At night seven and a half grs. chloral hydrate hypodermically. Next morning took Tr. digitalis ʒ ss.

Case III.—Mary M., admitted to hospital with delirium tremens. Pulse weak and rapid. Gave fifteen grs. chloral hypodermically, and ninety grs. potass. brom., by mouth, during first fifteen minutes; also Tr. digitalis ʒ ss. In forty minutes gave one hundred and twenty grs. bromide potassium by mouth, soon followed by seven and a half grs. chloral hypodermically.

Two more doses of bromide, each containing thirty grs. were given during the night, and in the morning fifteen ♏. Tr. digitalis.

These patients remained in the hospital several weeks for other reasons, and there was no evidence of any abscesses at the points of the hypodermic injections, although the chloral solution used was stronger than that employed in Case I., namely, two drachms to the ounce of water.

Progress of Medical Science.

Changes in the Maxillary Bones in Ataxics.—M. Vallin has observed, in several cases of locomotor ataxia, a falling out of the teeth which is not preceded by pain or caries. This phenomenon is due to a bony rarefaction of the alveolar border, as a result of which the teeth simply drop out of the alveoli. It is a trophic alteration of the maxillæ which has not hitherto been described, but which deserves careful study, as it may be an early symptom of the general disease. MM. Luys and Lereboullet have also observed this falling out of the teeth in ataxia.—*Le Courrier Médical,* March 6th.

On the Anatomical Characters of the Blood in Extreme Anæmia.—M. Hayem classes, under the title *aglobulie intense,* all those cases of anæmia characterized essentially by a globular richness of 2,000-000 to 800,000, and under the title *aglobulie extrême,* the cases in which the number of globules varies between 800,000 and 450,000. The following are some of the special modifications of the corpuscular elements which he has observed in these two classes of anæmia:

1. When a thin layer of normal blood is dried rapidly on a glass slide and covered with a cover-glass, the red globules and hæmatoblasts remain indefinitely without losing their hæmoglobine. On the other hand, in similar preparations of the blood of persons affected with aglobulie intense, the hæmatoblasts and a certain number of the red globules are often seen at the end of one or more days to be sur-

rounded with circles of small crystals, which are at first isolated, but subsequently unite to form more or less extended arborizations. This formation of crystals is observed no matter what may be the cause of the anæmia (saturnine poisoning, cancerous cachexia, hemorrhages, etc.). It is observed in preparations of the blood of animals made anæmic by repeated venesections. The crystals are very small, yellowish, or of almost the same color as the dried globules, and variable in form. They present the same appearances in the blood of men and animals. M. Fouqué has found that they have no action on polarized light. While seeking for an explanation of their production, M. Hayem found that the hæmatoblasts of the lymph are almost all transformed in the course of desiccation into minute crystals similar to those found in the blood of animals; absolutely similar crystalline arborizations are found in dry preparations of the lymph of dogs, or of the juice from the lymphatic glands of different animals (dog, cat, rabbit, guinea-pig).

2. When a fresh preparation of the blood in these cases of anæmia is examined, it will be noticed that a number of the white globules contain an abnormal quantity of hæmoglobine, while they, at the same time, retain their physical properties, and especially their amœboid contractility. Desiccated preparations contain then very peculiar corpuscles. These are regularly rounded or oval elements, of large size, and of a yellowish color, which is sometimes almost as pronounced, especially near the edges, as that of the red corpuscles. They are flattened by the process of desiccation, but nevertheless retain a certain thickness, and, as a necessary effect, are surrounded by a dark circle. At first sight these elements might be mistaken for voluminous red corpuscles, but they differ from them in several important points, viz., in the absence of bi-concavity, in the finely granular state of their protoplasm, and in the presence of one or more nuclei absolutely similar to those of the other white globules. They are undoubtedly white globules, which, by virtue of the hæmoglobine they contain, have retained a certain degree of thickness in drying. At times, some of these elements are so deeply colored, that the nuclear mass can scarcely be seen, particularly in recent preparations. These white globules, with colored contents, are much more frequently met with than the crystalline productions. Since 1875, when he first noticed them, M. Hayem has found them in all cases of intense and extreme aglobulie from any cause. They are exact counterparts of the globules found in the lymph of animals.

3. In some cases of extreme aglobulie, white globules, still more strongly charged with hæmoglobine are found. When treated with a fluid which fixes the blood-globules, such as that employed in their enumeration, they appear under the form of irregularly spherical corpuscles, with a yellowish, crenated, and changeable border. In the dry state they are almost always perfectly round, sometimes slightly oval, and are composed of a colored ring surrounding a granular and rounded nucleus. The outer ring is as deeply colored as the red corpuscles, and the whole presents the appearance of a nucleated red corpuscle. This variety of element is rare. M. Hayem has only met with it twice since 1875, both times in cases of extreme anæmia due to cancer of the stomach. He suggests the probability that the nucleated red corpuscles said to be found by some authors in leucocythæmia and pernicious progressive anæmia, and regarded by them as intermediate forms between the red and white corpuscles, were really elements of the above kind. Analogous elements are found in the normal state in the lymph and the red marrow of the bones.

4. Finally, in these cases of extreme anæmia, the small white globules are almost always more numerous than those of normal size, and some of them are as small as the smallest white globules of the lymph.

M. Hayem concludes from these observations, that the blood in these cases of extreme aglobulie contains elements that exist normally only in the lymph and in lymphatic organs, or in other words that it consists of a mixture of blood, properly so called, and of lymph. Instead of considering the above described nucleated colored corpuscles as a transition form between red and white corpuscles, he sees in them a proof of the arrest of the hæmatopoëtic function, and an essential characteristic of anæmia pushed to its farthest limits. When, under these circumstances improvement sets in, and the blood becomes richer, the colored white corpuscles disappear, and at the same time a considerable number of hæmatoblasts and elements intermediate between them and the red corpuscles are produced. From observation of fifty cases of reparation of the blood after different maladies, he states it as his positive belief that the hæmatoblasts are always the precursors of new red corpuscles.—*Gazette méd. de Paris*, March 6, 1880.

New Method of Treating Depressed Fractures of the Nasal Bones.—Dr. Lewis D. Mason states that experiments on the cadaver have led him to conclude, that in all fractures of the nasal bone with depression of the bridge, the nasal processes of the superior maxillæ are necessarily involved, and that the line of fracture is nearly on the same plane on either side. As the usual plans of treatment prove very unsatisfactory, he suggests a new method, which consists in the introduction of a medium sized, three-cornered surgical needle through the lines of fracture of the nasal processes after proper elevation of the depressed fragments. The needle is left in situ, and affords posterior support to the nasal bones, at the same time acting as a tie-rod to hold together the sides of the nasal arch. The needle should be nickel-plated or gilded, and ground to a drill point. A strong needle-holder will be required to pass it. If the lines of fracture be not symmetrical, the nasal process can be drilled through with the needle on either side. The needle will always have three points of support, viz., the nasal processes and the septum. To complete the dressing, a strip of pure rubber bandage is placed over the bridge of the nose by puncturing either end on the head and point of the needle. The rubber should have sufficient tension to exert a gentle downward and lateral compression, but not enough to interfere with the circulation or to exert injurious pressure on the fragments. At the end of the sixth day, or as soon as consolidation is sufficiently advanced to sustain the fragments, the needle may be withdrawn. Anæsthesia will be necessary while passing the needle, and probably when removing it also.—*Annals of the Anatomical and Surgical Society of Brooklyn*, March, 1880.

Thalictrum Macrocarpum.—M. Bochefontaine recently made a report to the *Société de Biologie*, on the physiological properties of the extract of the roots of this plant, which belongs to the order of ranunculaceæ. A series of experiments on frogs and dogs showed that it produces local symptoms of irritation, severe vomiting, diminution of excito-motility and muscular contractility, phenomena of paralytic engorgement of the central nervous system, and retardation and even arrest of the heart's action. Whenever the dose of the extract was sufficient to cause paralysis, it was followed by death. Two principles have been isolated from the extract of the roots: macrocarpine and thalictrine. The former is not toxic; it possesses some of the reactions of berberine. Thalictrine, on the contrary, is very active, and possesses the chemical properties of the alkaloids. It has been found to possess both the toxic properties and the physiological action of the extract of the roots of thalictrum. In its physiological properties, thalictrine seems to resemble aconitine.—*Le Progrès médical*, March 20, 1880.

LOCAL ANÆSTHESIA BY BROMIDE OF ETHYL.—M. Périer, of Paris, states that he has employed the bromide of ethyl several times as a local anæsthetic with considerable success. It has the advantage over ether of not being inflammable, and hence can be employed when the actual cautery is to be used.—*La France médicale*, March 27th.

AN UNDESCRIBED VARIETY OF FRACTURE OF THE FIBULA.—M. Duplay has recently met with two cases of an undescribed form of fracture of the upper extremity of the fibula. Both the patients had been caught in the belting of machinery. Just above the site of the upper extremity of the fibula, there was in each case an immovable bony prominence to which the tendon of the biceps was attached. Below this prominence there was a distinct depression. Evidently a portion of the head of the fibula had been torn off. The diagnosis was easy in both cases. One of the patients had multiple fractures, and, moreover, complete paralysis of the extensors of the foot and the peronei muscles, due to a lesion of the external popliteal nerve. The other patient died suddenly, before there was time to ascertain whether or not paralysis of the muscles existed. At the autopsy it was found that the nerve passed around the fractured end of the bone, and hence it was probably involved in the lesion. In the former case it is probable that osseous consolidation will not take place, but the patient will probably get fair use of the leg, although the paralysis seems to be permanent. When the patient left the hospital, some months after the accident, the paralysis still persisted, and later advices show that the condition remains unchanged in this respect.

M. Perrin reports a similar case, caused by a horse falling on the rider's leg. The head of the fibula was torn off, and there was some effusion into the knee joint. In this case also there was anæsthesia and complete paralysis of the anterior and outer aspects of the leg.—*La France médicale*, March 27th.

ON THE TREATMENT OF MALARIAL FEVERS BY THE ETHEREAL OIL OF MUSTARD.—Dr. Tabercorn reported to the Caucasus Medical Society, that he had obtained very brilliant results with the ethereal oil of mustard, in many cases of malignant malarial fevers while he was stationed in Moldavia. He prescribed from 2–3 drops of the oil in a large quantity of boiled water, or, what is better, from 2–4 drops in a 10 % alcoholic solution. In garlic, onions, horseradish, etc., are present substances allied to the mustard oil, and these vegetables are eaten extensively by the inhabitants of the marshy districts for their prophylactic properties. The oil is also an excellent antiseptic, destroying bacteria in the solution of 1 part to 900. —*Meditz. Obozrenie, February*, 1880.

IODINE IN INTERMITTENT FEVERS. — Dr. Stepanoff finds iodine efficient mainly in recent cases of intermittent, and particularly if the temperature does not rise above 39° C. But it does not prevent the recurrence. — *Vratcheb. Vedom. NNo.* 395–399.

MILK IN THE LOCAL TREATMENT OF DIPHTHERIA. — Dr. Karnitzky speaks very highly of milk as a gargle or atomizing fluid in the treatment of not very severe cases of diphtheritic sore-throat. The milk should be as fresh as possible, about 22° C. and can be diluted half or one-third with lime water.—*Vratscheb. Vedom. No.* 403.

EFFECTS OF FARADIZATION OF THE LIVER ON THE EXCRETION OF UREA.—As the result of very carefully conducted experiments, Dr. Sigrist comes to the conclusion that faradization of the liver makes its circulation more active, and consequently leads to an increase of the excreted urea. In one case the amount of urea was raised from 18–20 grms. to 35 grms., and the size of the liver became perceptibly larger.—*Vratsch.*, 1880, *No.* 2.

FOUR CASES OF AMPUTATION OF THE INVERTED UTERUS.—The cases which are the subject of Dr. Vadiagin's report, were from 21–35 years old, disease lasting from 1 to 3½ years, all of puerperal origin. Operation was called for by excessive hemorrhages resisting most energetic treatment, and by inability to reduce the inversion. The removal of the uterus was accomplished in each case by a wire ligature placed close to the cervix, and tightened every day until the organ dropped off. This occurred on the 8th, 9th, 11th, and 15th days. In the first three cases fever was mild and septic, complications slight. But in the last one, the ligature, on account of the severe pain, could not be made sufficiently tight, which occasioned slower separation and more marked constitutional disturbances. All recovered.—*Meditz. Obozrenie, April*, 1880.

HEARING BY THE AID OF TISSUE-CONDUCTION.—THE MOUTH-TRUMPET AND THE AUDIPHONE.—Dr. Samuel Sexton has published a paper explaining the *modus operandi* of hearing through the tissues of the head with the mouth-trumpet and the audiphone. One of these conditions he believes to be more or less change in the membrana tympani, especially its loss of proper tension from trophic changes, or from results of inflammatory action; thus impaired, the membrane fails to perform its vibratory function in a normal manner. Or, the excursions of the membrane may fail of transmission to the labyrinth through displacement of the articular surfaces of the ossicula, the normal tension of the conductive apparatus of the middle ear thus being no longer maintained. When the integrity of the membrana tympani and the chain of ossicles is thus impaired, sound-waves received by the teeth, or other parts of the head, may be transmitted through the bones, muscles, and other tissues of which the parts are composed, to the auditory nerve. Practically, Dr. Sexton has found that tissue-conduction permits of conversation with the deaf by means of a mouth-trumpet—a short tube of rubber extending from the speaker into the patient's mouth—although in an experience of some years he has not been able to satisfy himself that it is of value for general use. He recommends it, however, as promising good results, if used in the instruction of some deaf mutes who hear their own voice, but require the aid of normal sounds in order to learn to speak. Voice is heard by means of the audiphone in the same way as through the mouth-trumpet, but the transmission in this case being affected through an uninterrupted and direct osseous route from the teeth to the ears, it is heard much more loudly; by no means, however, in a natural tone.

Dr. Sexton found that one patient, cited as an example, could hear the distinct voice of one person a few feet only, and that, although he had practised with the audiphone of Mr. Rhodes for several months, he could hear no better with it than when he used it first. One patient, a lady, found the use of the instrument made her quite nervous, attempts to hear conversation at all well being quite ineffectual. It was observed that this lady had suffered loosening of a tooth from the pressure (and vibrations?) of the audiphone when in use. The author's patients found the audiphone inconvenient to carry about and exceedingly liable to be broken. Dr. Sexton concludes, from observations made on a number of patients who have used the audiphone, that, as at present constructed, its range of usefulness is rather limited, but that those who experience autophony—hearing their own voice—can derive more or less benefit from it if properly constructed. The writer does not doubt that, when a knowledge of tissue-conduction of the head is more general, better instruments will be devised.—*The American Journal of Otology*, April, 1880.

ON NERVE-STRETCHING.—Dr. A. Gen collected 73 cases of nerve-stretching used as a therapeutic measure. In traumatic neuralgia it was employed 6 times—cured 4, improved 1 (recovered entirely after neurotomy), no improvement 1. In neuralgia from other causes, in 14 cases—cured 10, improved 3, 1 died from the hemorrhage. In clonic spasms and contractions, 6 times—cured 4, no improvement 2 (one cured by neurotomy). In peripheral epilepsy, once—cure. In tetanus, 16 times—cured 7, symptoms improved but disease terminated fatally in 6, symptoms did not improve and patients died, 3. In anæsthetic leprosy, 30 times, in all cases with marked benefit.

As the therapeutic action of nerve-stretching is not well understood, he performed some experiments in the laboratory of Prof. Tarchanoff with a view to determine it. Some of his conclusions are as follows: Not only mild stretching, but also the use of force equal to half what is necessary to rupture the nerve, may produce an increase of its irritability and conduction. Mild stretching has no effect upon the reflex irritability, but if the force used be great, it is diminished; this effect is also observed on the opposite side, indicating the central seat of the change in its effects. Hence the operation is not limited to the peripheral parts only of the nerve, as Vogt was inclined to think. Under the microscope he found the traces of hyperæmia and capillary hemorrhages; the axis-cylinders and myeline may be severed, but the Schwan's sheath is intact. He found also peculiar constrictions in the medullary fibres. He considers that the diminution of the reflex activity is the main feature, and in the cases operated on was the condition called for.—*Voyenno-meditsinsky Journal*, December, 1879.

ABSCESS OF THE LIVER—PUNCTURE—RECOVERY.—Dr. Jschulovsky reports the following: On admission of the patient, a tumor of the size of the child's head was found in the right hypochondriac region, elastic to touch, uniformly soft, not painful, and with indistinct fluctuation. Temperature normal. By means of the aspirator five lbs. of a yellowish green, bad-smelling pus were withdrawn. On the fourth day the abscess became as large as ever, and it was evacuated through a trocar; with the pus, thirty biliary calculi not exceeding the size of a pea escaped. During the following two weeks, from ten to thirty similar stones came away through the opening nearly every day. Fistula was healed in a month from the beginning of the disease.—*Vratschel Vedomosti, Nos.* 380 *and* 381.

SALICYLATE OF SODA IN TYPHUS FEVER.—Dr. Ter-Grigoriantz used this drug in sixteen cases of typhus fever with very beneficial effect. In no case was there violent delirium, and only one patient suffered from a mild delirium; the action of the heart became stronger; there was no recurrence of the disease; all the patients recovered and left the hospital after an average stay of twenty-five days, looking remarkably vigorous. No injurious effect was observed on the kidneys, but in one case the face became œdematous. Two ounces of salicylic acid were administered in the course of twenty-four hours.—*Meditz. Obozrenie*, February.

TREATMENT OF CHOLERA INFANTUM.—Dr. Böing, of Uerdingen on the Rhine, states that he had remarkable success in an epidemic of cholera infantum last year with a treatment consisting of large doses of quinine and wine. He treated about fifty cases between two months and four years of age, and all recovered. Some of the children under one year of age were being brought up by hand. The quinine was given in divided doses every half-hour or hour, in a menstruum consisting of equal parts of mucilage, syrup of chamomile, and distilled water. To children under 5 months of age, 15 grains of quinine were given in 24 hours; to children from 5 to 10 months old, from 18 to 22 grains, and to children from 10 months to 4 years old, from 22 to 30 grains. When the dejections and vomited matters were acid, the addition of testa prep. or phosphate of lime seemed advantageous as long as the urine had an acid reaction, but seemed to increase the vomiting when the urine was alkaline. The wine used was Tokay; for the youngest children it was diluted with equal parts of boiled water, and a teaspoonful to a tablespoonful given every quarter-hour or hour. A moribund girl, three years of age, took nearly a pint of wine in 24 hours. Milk was given boiled and diluted with equal parts of boiled water. In some of the cases everything was vomited at first, but the treatment was persisted in, and after a short time the stomach retained all that was given. For the poorer patients a mixture containing acetic ether (♏. lxxv. pro die) or spirits of acetic ether (℥ ss. pro die) was substituted for the wine. The acetic ether was used in preference to sulphuric ether, on account of its more agreeable taste and smell. Some of the patients were unable to swallow when first seen. In these cases several subcutaneous injections of acetic ether were first administered at short intervals, and the Tokay was then given in teaspoonful or tablespoonful doses, the spoon being passed deeply into the mouth and the tongue pressed down before the spoon was emptied. After a brief persistence in these measures, the children invariably regained the power of swallowing. Dr. Böing states that he confined himself strictly to the above treatment in all of the cases, and that he regards calomel, opium, and cold applications as dangerous remedies. Should the treatment fail in any future trials, he proposes to give the quinine subcutaneously, or in doubled doses by injection. To relieve the thirst he would then give boiled water containing a little salicylic acid.—*Allg. med. Cent. Zeit.*, June 26th.

THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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THE AMERICAN ASSOCIATION OF MEDICAL COLLEGES.

An examination of the official report of the fourth annual meeting of the American Medical College Association reveals an apparently anomalous state in the affairs of this organization. There are in the report confident assertions of the prosperity of the Association, but there are, on the other hand, certain facts stated which do not appear so promising. It will be seen from our abstract of the report in another column that the membership has increased in the past year from twenty-nine to thirty-one. So that the Association now embraces one-half of the colleges of the United States. It claims to have secured progress as regards medical education in seven different directions, and the claims are to some extent just. The reports of the special committees are independent in tone, and show a thorough appreciation of the evils that need remedying. And, finally, the Association has had the courage to take the step of insisting upon three full courses of lectures as a requisite for graduation.

But in spite of all this evidence of earnest endeavor after reform, we find that none of the largest medical colleges are working with the Association. Not one of the colleges of Philadelphia, New York, or Boston, were represented at the meeting, except the Jefferson Medical College, and its delegate failed to vote for the resolution requiring a three-term course. The College of Physicians and Surgeons of this city, and the Bellevue Hospital Medical College, and the Vermont University Medical College, withdrew from the Association altogether. It is composed, therefore, now, for the most part, of the smaller medical colleges scattered throughout the west and south.

This disaffection of the Eastern colleges has, we fear, an unfortunate significance. If we interpret it rightly, it means that the Association can do them no good and that they do not have faith in the possibility of securing any great reforms in medical education through its influence. There certainly is some reason for looking at the matter in this light. The Association is composed largely of colleges which really can not subscribe to certain most desirable measures without ceasing to exist. One of these reforms—the one perhaps of least importance—is that of raising the lecture-fees. An attempt to make a rule on this point at the last meeting failed utterly. There is a very sharp competition among some colleges, and one form which this takes is the practice of underbidding each other in the matter of fees. This practice, which is very demoralizing, the Association cannot stop. Another reform which is greatly needed is the insisting that a medical college should furnish a certain amount of clinical instruction. But there are a good many country colleges, where a rule enforcing even a small minimum could not be carried out.

The fact is, therefore, that a high minimum of requirements for graduation—a minimum embracing all points desirable to secure a thorough medical training—can never be applied to all American colleges, and can never be adopted by the College Association without a fatal loss of membership. A minimum that would, perhaps, elevate and benefit small colleges would be inadequate for the institutions of the great cities.

It is with great regret that we express this doubt in the future possibilities of the American Medical College Association. It has certainly done some good work, but, under its present methods, it has, we fear, done nearly all that it can. We see no way out of the difficulty, except by openly acknowledging the facts that exist, and by devising, if possible, some new plan for surmounting them. It seems very much as though the only possible solution will be in adopting two standards of minimum requisites for graduation. This would not be at all inappropriate to our medical institutions. We have two classes of colleges, the one in which didactic and clinical instruction are united in equal degrees of prominence, and the other in which the teaching is almost entirely didactic. The latter class embraces institutions which, though small, are often very useful. The most they can do, however, in the way of reform, will be to lengthen their courses, elevate the standard of their examinations, and increase the amount of didactic instruction. A general minimum of requisites for graduation, which would apply to this class, would not be sufficient for the large colleges; hence the propriety of a double standard. The country colleges should accept the fact that their function in medical education is a limited one, and they should be content with the position of a lower grade college. It is not a thing about which there could be any hesitation among thoroughly honest and disinterested men. It is almost a crime to graduate a medical student without giving him practical clinical teaching. We commend the matter to the attention of the Medical College Association, with the earnest hope that some measure in the direction indicated may be devised and eventually carried out.

SUICIDE AND HOT WEATHER.

The vital statistics of Philadelphia show that during the past hot weather twenty-four persons have committed suicide. This fact has suggested the query whether hot weather has any causative relation to the increase in the cases of *felo de se.* The statistics of European countries, recently collected and studied by a writer in *Blackwood's Magazine*, show that it has such relation very decidedly. Some interesting facts are presented in discussing the subject. It is not in cold or wet, but in fine weather that Europeans kill themselves the most. The returns indicate with glaring distinctness, says the writer referred to, that spring and summer are everywhere the great suicidal periods; that November is about the most innocent month in the year; and that May, June, and July are the worst—so much the worst, indeed, that twice as many suicides habitually happen in each of them as in any winter month. The average rises, almost regularly, from November to May, and goes down again, in equivalent degrees, from July to November. It is a curious fact also, that, although the natives of hot countries slaughter themselves less than those of cool climates, nevertheless heat does seem to be an incentive to self-murder in these latter regions. In Algeria, for instance, where a good many French soldiers kill themselves from homesickness, it has been remarked that the moment ordinarily chosen is when the south wind blows and brings up from the desert its scorching, irritating dryness. This, with other facts, tends to prove that dampness has not that fertilizing influence on suicide with which it has been credited, and the old theory that suicides in England are mainly caused by the fogs is disproved.

Regarding this influence of climate, it has only recently been shown that it has no effect in producing suicide. Thus, in the comparative catalogue of national suicide, England stands below the middle of the list; but Norway is high up in the table; Denmark is at the very top, while Russia is low down in it. Yet the climates of these countries present such analogies that, so far as regards their action on the character of the people, they may be considered identical. The Esquimaux do not kill themselves at all, neither do the Falkland Islanders; yet the climate in which they live is certainly worse than that of Scandinavia or England.

In estimating the increase of mortality that is caused by hot weather in temperate climates, therefore, we must include that induced by an increase of suicidal tendency. Deaths from this cause are, of course, beyond the reach of the sanitarian. The mortality is not, in any given locality, a large one, yet it is by no means insignificant. In Europe 60,000 persons kill themselves annually; and, assuming that about the same rate exists with us, there are nearly 10,000 Americans who kill themselves every year.

PHARMACOPŒIAL WEIGHTS AND MEASURES.

There is danger that the forthcoming pharmacopœia of the United States will be disregarded by many of the physicians and pharmacists on account of the abolition of fluid measures. It is of course optional with physicians whether or not they will prescribe exclusively by weight. For the adoption of "parts by weight only" in the pharmacopœia is one thing, and the discontinuence of volumetric methods in writing and dispensing prescriptions is another, which does not necessarily follow from the first. That liquid remedies must be given to patients by measure is, however, undeniable, and physicians will be apt to write their prescriptions in the manner best adopted to the end in view. Fluid measures are the only direct and convenient means; they are nearly as accurate as weights, and will therefore continue to be used. The pharmacists of this country, having been so long accustomed to measure liquids, will probably find the new method troublesome.

Professor Oldberg's paper on the subject in this number of the Record strongly indicates that the metric system, including fluid measures, would have been far preferable.

ANÆSTHESIA IN DENTISTRY.

The New Jersey State Dental Association, at its recent meeting, passed a resolution to the effect that its members should avoid the use of anæsthetics as much as possible, and that in every case requiring anæsthesia the greatest care should be taken to insure the safety of the patient by a preliminary examination into his physical condition. Under ordinary circumstances the precautions advised would be considered altogether unnecessary; but, coming from a body of dentists, and with the formal sanction of a deliberate society vote, they have more than an ordinary significance.

It need not be stated that dentists, as a class, are addicted to the free use of anæsthesia; neither is it necessary to assert that a large proportion of fatal cases, especially with chloroform, have been associated with dental operations. Hence, it appears peculiarly appropriate for a society of dentists to give the matter such serious attention as is indicated by the resolution to which we have referred.

The injunction to abstain from the use of anæsthetics whenever such a thing is possible will not have, practically, much force with dentists. The desire of a patient to avoid pain, and the inclination of the operator to oblige him, are two powerful elements which will always argue in favor of anæsthesia. Besides, the public are educated to the belief that for tooth-extraction pain is not necessary. The administration of some sort of anæsthetic is now considered to be a necessary condition of the operation, and the dentists who fail to meet the want are in danger of losing custom. It can hardly be expected that any dental operator, under such circumstances, will strain a point to persuade a patient not to be rendered insensible to pain; but, if the other part of the resolution is conscientiously carried out, viz., the preliminary examination into the physical condition of the patient, many fatal accidents may be prevented.

Reviews and Notices of Books.

Health and Health Resorts. By John Wilson, M.D., late Medical Inspector, U.S.A. Philadelphia: Porter & Coates. 1880.

The title of this book is a somewhat pretentious one, for there is not very much about health, and only foreign health-resorts are described. To that comparatively small class of persons which goes abroad for its health the book will furnish considerable useful information. The remarks upon the regimen for invalids at health stations are judicious and show familiarity with these places. The author discourses learnedly upon the influence of electricity in producing climatic changes, but the bearing of his theories on health and health-resorts is not very apparent. The chapters upon mineral springs and winter health resorts have about the merit of an ordinary guide-book. The book will have some practical usefulness, but, on the whole, it is a rather weak effort.

The Thirteenth Report of the St. John's Hospital, at Lowell, 1879, contains an interesting account, by Dr. Nathan Allen, of the Hospital Sunday movement, and its success in this country.

Retention of the Placenta after Abortion. By B. B. Brown, M.D.

Several cases illustrating this rare accident are here related. A bibliography of the literature of the subject is appended, which makes the pamphlet a valuable one.

On New Methods of Operation for Repair of the Female Perinæum. By Lawson Tait, F.R.C.S., etc.

Mr. Tait's new operation is based on two principles: first, that no tissue is removed, flaps being lifted only; second, that the stitches instead of being interrupted and applied through the thickness of the flap, are applied in the axis of the wound and are practically continuous. The reprint describing this operation is well illustrated, as would be necessary indeed to make the process clear.

I. Surgery in the Pennsylvania Hospital. Being an Epitome of the Practice of the Hospital since 1756; Including Collations from the Surgical Notes, and an Account of the more Interesting Cases from 1873 to 1878. With some Statistical Tables. By Thomas G. Morton, M.D., and William Hunt, M.D., Etc., Etc. Philadelphia: J. B. Lippincott & Co. 1880. 8vo, pp. 319.

II. Montreal General Hospital. Reports, Clinical and Pathological. By the Medical Staff. Edited by William Osler, M.D., M.R.C.P., London. Vol. I. Montreal: Dawson Brothers. 1880. 8vo, pp. 369.

I. The first of these works is based mainly upon the cases recorded in the hospital since 1873, the records extending as far as 1752, being made use of when deemed necessary. Many of these cases have appeared in the various medical journals from time to time. The first article on "Amputation" contains the statistics of 108 operations performed on 100 patients and extending over the period between 1875 and 1879. From these it would appear that in 59 cases in which the amputation was primary, 45 were cured, 13 died, and 1 was removed from the hospital. Of the 11 secondary amputations, 10 were cured and 1 died. There were 38 amputations for bone and other diseases; of these 34 were cured, 3 died and 1 was removed. Of the 34 amputations at the upper extremity, 4 died; of 74 at the lower extremity, 13 died. From the table giving the number of amputations performed from 1830 to 1879, we find that there were 1,011, of which 247 died. Statistics are also given of various other surgical diseases, the more prominent being "aneurisms," "erysipelas," "cancer," "elephantiasis," "ovariotomy," and "fractures." An interesting account of the construction of the hospital, the mode of ventilation, and hospitalism is furnished by Dr. Morton. Then follows a list of the medical officers of the institution, prepared by Dr. Longstreth. The volume concludes with an abstract of the surgical cases treated from May, 1873, to May, 1878, prepared by Mr. Jonathan Richards, the whole number being 5,580, of whom 390 died, 3,134 were cured, 996 improved, and the remainder, with the exception of 490, who were in the hospital when the report was made, were lost sight of. The book contains an engraving of the hospital, one phototype, and several illustrations. It will be of great service as a book of reference to those interested in surgery.

II. We hail with pleasure the appearance of the first volume of these reports. The editor, in the preface, gives a brief account of the hospital accommodations, there being 170 beds and an average of about 1,600 in-patients admitted during the year, and 15,000 out-patients treated. In the year commencing May, 1878, and ending April 1, 1879, there were 1,552 patients treated in the medical and surgical wards of the hospital, of whom 1,416 recovered, and 136 died. The first paper "On hemocythæmia," by Dr. R. P. Howard, contains the histories of several cases, the pathological conditions found, together with views of different authors in reference to the disease. A "Remarkable Case of Favus," is described by Dr. T. G Roddick, in which almost the entire scalp was affected, together with a greater part of the body, the hands and feet being free from the disease, The same writer gives the statistics of Lister's antiseptic method, as practised in the hospital. From this we find that in 64 operations performed, there were but two deaths, one being a woman, fifty-five years of age, in whom the leg was amputated, and who died from exhaustion during the third week, a post-mortem examination revealing an aneurism of the common iliac, with closure of the vessels from that point. The other case was one of morbus coxæ in an advanced stage. The "Pathological Report" of Dr. Osler is quite full and exhaustive, comprising a selection from 225 post-mortems. There are other papers by Dr. Osler and the members of the hospital staff, which are of value and interest. There are several excellent plates interspersed through the book, which are well gotten up. We congratulate the editor on the great amount of material that has been brought together, and hope to see the "Reports" continued from year to year.

Catalogue of the Graduates and Officers of the Medical Department of the University of the City of New York. December, 1879. Second edition. Published by the Alumni Association. 8vo, pp. 159.

The catalogue contains a history of the Medical Department of the University. A list of officers is then given, after which are the names of the alumni, together with their residences and the different offices they have held. The class of 1879 is to be found in this edition.

A Reply to Criticisms on the "Problems of Insanity," with Remarks on the Gosling Case. By Dr. Geo. M. Beard.

This pamphlet embraces Dr. Beard's closing remarks during the discussion of his paper on the Problems of Insanity, before the Medico-Legal Society. It makes quite interesting reading and is one of Dr. Beard's best literary efforts. It has a good deal of glitter to it, and it contains several striking and suggestive points; but we doubt if it makes very much impression on the scientific mind. Dr. Beard's definition of insanity is as elastic and meaningless as other efforts in the same direction.

What Constitutes a Discovery in Science. By Dr. Geo. M. Beard, A.M., M.D.

In this little brochure of five pages, Dr. Beard endeavors to show that he is the true discoverer of neurasthenia. The argument is made up of lurid rhetoric, shallow analysis, and pretentious logic. Dr. B. is undoubtedly entitled to much credit in the matter of delivering this new pathological infant, neurasthenia, but critics on the whole have done him ample justice, and the present performance seems to be quite uncalled for.

One Thousand Deaths in "The Knights of Honor." By Joel Seaverus, M.D.

This is the title of a short article in which the different proportion of mortality in the different States is shown. It appears, for example, that in Kentucky the proportion of deaths was 1 to every 42 members, while in Massachusetts it was 1 to 89. The facts brought out will be of value to co-operative life insurance companies and mutual benefit societies like The Knights of Honor.

Report of the Proceedings in the Case of Ruths vs. Reuling.

The trial for malpractice, of which the present pamphlet is a record, excited much interest and feeling in Baltimore at the time of its occurrence last March. Dr. Reuling, a reputable physician and oculist, operated on a woman for acute glaucoma; the operation failed, partly through the fault of the patient, and she was left blind—the condition to which the disease itself would have in any event brought her. The woman and her friends appeared to be satisfied, and continued friendly toward Dr. Reuling until about three years later. At that time, partly through the hints and instigation of a "brother" oculist, a trial for malpractice was instituted. This came off last spring. An attempt was made to show that the diagnosis was wrong, and the operation uncalled for. The attempt was a signal failure, and Dr. Reuling was completely acquitted. The affair was an unfortunate one, and did great injustice to the defendant.

A Paper on Color-Blindness. By Dr. B. Joy Jeffries.

Read before the U. S. Naval Institute, gives a brief and clear statement of the principal facts regarding color-blindness.

Notes on Perityphlitis, by Henry B. Sands, M.D.,

is the title of a paper giving the results of the study of twenty-six cases of perityphlitis that occurred in the author's experience. The observations here made will be of use to persons who wish to refer to the subject, though they embrace nothing especially new. The treatment by early incision, introduced by Dr. Willard Parker, is endorsed.

Protection from Venereal Diseases in America. By Dr. J. Birbeck Nevins, London.

This is the reprint of an article that appeared in *The Sanitarian*, a short time ago, in answer to the address of Dr. H. L. Gihon, delivered before the Public Health Association, and subsequently published in the same journal. Dr. Gihon portrayed, in somewhat lurid colors, the evils of syphilis to the human race, and urged the great necessity of taking strong measures to stamp it out. Dr. Nevins deprecates the rhetoric and calls in question some of the statements of Dr. Gihon. The former gentleman would have us believe that syphilis is not such a terrible scourge as has been represented. He shows that in England the total deaths from syphilis are only 1 out of every 374. Out of 60 diseases tabulated in the order of their fatality, syphilis ranges from forty-second to forty-fifth. Out of an annual average of 1,201 deaths from syphilis, 1,037 occur within the first year of life. Dr. Nevins does not think that hereditary syphilis is so severe or frequent as has been supposed. Among 266,846 patients in ten children's hospitals in Great Britain and Ireland, only 1.4 per cent. were entered as syphilitic.

Dr. Gihon, in a subsequent number of *The Sanitarian*, published a short reply to the present article. Each author writes as a controversialist, but Dr. Nevins has undoubtedly collected the most facts and has made the better showing for his side.

Contributions to Orthopedic Surgery, including Observations on the Treatment of Chronic Inflammation of the Hip-, Knee-, and Ankle-joints by a New and Simple Method of Extension—the Physiological Method; and Lectures on Club-foot, Delivered at the College of Physicians and Surgeons (Special Course). By Jos. C. Hutchison, M.D. New York: G. P. Putnam's Sons. 1880.

Orthopedic surgery has received a very wide attention and innumerable contributions during the past forty years. But in all the literature of this subject nothing has been shown so clearly as that the theories regarding the best method of treating diseases of the joints are absolutely valueless. At the present time it is announced by the highest authorities, on the one hand, that, in treating diseases of the joints, rest and immobility are the great indications to pursue, and, on the other, that extension with mobility are the *sine qua non*. There is no surgeon who has not his pet theory in which a different degree of prominence is given to rest, extension, compression, immobility, mobility, or expectancy. There is, we must conclude, but one test for any special method of treatment, and that is the test of practical results. On Dr. Hutchison's special method, therefore, of treating diseases of the hip, knee, and ankle, we pass no judgment. The method is simple, inexpensive, can readily be changed if ineffective, and on these grounds deserves a wide trial by the profession. It consists simply in elevating the sound limb by placing a raised shoe on the corresponding foot and letting the child go on crutches. The weight of the limb makes sufficient extension, and the fear of pain secures sufficient immobility. The objections which naturally occur are, that the constant extension may be injurious to the knee-joint, and that the time of extension is not sufficiently long, as it is only applied during the two or three hours a day when the child is walking about. To remedy this latter point, Dr. Hutchison, in some cases, uses night extension by weight and pulley. And he claims that the results of his method have been very satisfactory, much more so in fact than those obtained by the employment of the ordinary mechanical appliances. We agree with the author that Sayre's and Taylor's splints secure neither mobility in the joint nor the extension which is claimed ; and it would be a blessing to afflicted children if the plan offered by Dr. Hutchison, which does away with a cumbersome and often entirely useless harness, could be proved a successful one.

Dr. Hutchison's lectures on Club-Foot have already appeared in The Record, and do not need extended comment here. They are clear and practical discussions of the subject ; and are very well illustrated.

The Surgery, Surgical Pathology, and Surgical Anatomy of the Female Pelvic Organs. In a Series of Plates taken from Nature, with Commentaries, Notes, and Cases, by Henry Savage, M.D., London. Third edition, revised and greatly extended. Thirty-two plates and twenty-two wood engravings, with special illustrations of the operations on vesico-vaginal fistula, ovariotomy, and perineal operations. New York : Wm. Wood & Co. 1880. Wood's Library of Standard Medical Authors.

The publishers of this volume deserve great praise for the enterprise which has placed so valuable and heretofore costly a work within the reach of every practitioner. The plates with which the book is filled are anatomically accurate, and, artistically, are perfect specimens of lithographic art. Dr. Savage's long experience, and his connection with Spencer Wells, entitle him to speak with authority upon the various surgical and pathological points which he discusses. The book treats first of the anatomy of the female perineum. This part of the subject is illustrated with seven plates, accompanied by descriptions and surgical hints in regard to pelvic abscess, pudendal hematoceles, etc. The anatomy of the pelvic contents and their relations is then described, and illustrated with ten plates, besides woodcuts. Under this head Dr. Savage gives an excellent summary of the neoplasms of these parts. In the classification of these tumors, the author inclines to the greatest simplicity, and is of the opinion, to which every one will agree, that nomenclature has hitherto proved more a hinderance than a gain to pathology. The remainder of the book is chiefly devoted to plates and cuts illustrating operations on vesico vaginal fistula, ovariotomy, and perineal operations. Under the head of ovariotomy, he gives the steps of the operation as performed by Spencer Wells. Under all the heads are short and practical commentaries, together with histories of cases which are remarkable for the compactness and point with which they are related.

Dr. Savage is inclined to be aphoristic in making his surgical comments, and he sometimes infers practical rules from purely anatomical considerations in a too dogmatic fashion. An instance of this is his conclusion that the uterus can hardly be amputated without a fatal result from hemorrhage. It will, perhaps, pain a certain eminent gynecologist to learn that nothing is said about the ductility of the uterus. A defect in the book that will be more widely felt, is its lack of an index.

It is needless to go into further analysis, as the book is one that must be seen in order that its merits may be fairly appreciated. It is an exhaustive anatomical, and an almost indispensable surgical guide to the parts of which it treats.

Carlsbad and its Natural Healing Agents, from the Physiological and Therapeutical View, by J. Kraus, M.D., with notes introductory, by Rev. J. T. Walters, M.A. Second edition. Revised and enlarged. London : Trübner & Co., Ludgate Hill. 1880.

This little book embodies an attempt to write up the Carlsbad Springs in a strictly scientific manner, and to furnish physicians with a thorough knowledge of the properties of the waters. There is rather more of scientific information than is generally found in water-cure guide-books, but the general tenor seems to be that Carlsbad water cures pretty nearly everything, especially if the patient is "under the providential care of Dr. Kraus," as was the case with the reverend writer of the introductory notes. Not many physicians send patients to Carlsbad, but if they intend to do so, doubtless a perusal of this book would give additional intelligence and confidence to their counsels.

Mr. Tait's Cases of Oöphorectomy.—Mr. Lawson Tait publishes, in the *British Medical Journal*, a synopsis of all the cases, twenty-eight in number, on which he has performed oöphorectomy. In twenty-six cases of complete operation there was but one death. The results were, at date of the report : complete relief in 18 cases ; great relief in 6 cases ; partial relief in 1 case ; no complete record in 1 case ; death in 1 case. This last was a patient suffering from myoma, and nearly moribund with hemorrhage at the time of operation. The causes for the operation were : dysmenorrhœa in 11 cases ; menstrual epilepsy and mania in 2 cases ; menorrhagia in 2 cases ; hemorrhage from myoma in 10 cases ; abscess of ovary in 1 case. Fourteen of the patients were single ; the ages varied between twenty-five and fifty. Mr. Tait lost one of the two cases in which he performed incomplete ovariotomy. He is of the opinion that unless the ovaries can be entirely removed they had better not be touched.

Reports of Societies.

THE NEW YORK SOCIETY OF GERMAN PHYSICIANS.

Stated Meeting, May 28, 1880.

Dr. W. Balser, President, in the Chair.

CONGENITAL ATRESIA OF MEATUS AUDITORIUS EXTERNUS.

Dr. Scharlau exhibited a child showing this abnormal condition on the right side. In addition to the atresia of the external meatus, the child also had an incomplete development of the pinna of the same side.

Dr. Knapp stated in reference to this case, that bilateral atresia was of very rare occurrence, and that such patients frequently showed, in addition to the arrested development, traces of the original cervical fissures. In this particular instance, the two small superficial fistulæ which appeared near the site of the meatus, might be regarded as remnants of the cervical fissures. In most cases of this kind, he added, the internal auditory apparatus was also found in a condition of malformation, so that operative interference offered no chance of a successful issue.

PERFORATING DUODENAL ULCER.

Dr. Caille presented a specimen of the above, removed from the body of a man 55 years of age, and gave the following history: The patient had complained for some years past of dyspepsia, and he had latterly taken large quantities of hydrochloric acid. Some time before his death he had some pains in the umbilical region. Pressure here would aggravate the pains. Symptoms of enteritis then came on, and were rapidly followed by diffuse peritonitis.

At the autopsy, the upper portion of the horizontal part of the duodenum showed a perforating ulcer. In referring to the mode of development of these rare ulcers, it was stated that the self-digestion of a primary hemorrhagic infarction would account for the origin of the lesion. In this case bloody stools had not been observed.

Dr. Langmann remembered a very similar case which had been previously reported at one of the meetings of the Society, by Dr. Schnetter. Intestinal hemorrhage had, however, been a prominent symptom in that case.

CONGENITAL ATROPHY OF LIVER.

Dr. Jacobi presented a specimen of what he considered a true interstitial hepatitis, occurring in an infant weighing ten pounds. The liver weighed only one ounce and a half, and was composed almost exclusively of connective tissue. (See Medical Record, June 5, 1880, p. 648.)

◆

Another Diploma Shop Discovered.—A medical school or college which appears to have been trafficing in diplomas has recently been discovered, it is said, in Kansas City, Missouri. From the circumstances surrounding the matter it would seem probable that the officers of the institution, if it be entitled to the name, are successors in business and perhaps descendants by name of some of the Philadelphia worthies renowned in same sort of transactions.

NEW HAMPSHIRE MEDICAL SOCIETY.

Ninetieth Annual Meeting,

Held in Phœnix Hall, Concord, June 15 and 16, 1880.

First Day—Morning Session.

The meeting was called to order by the President, Dr. T. J. W. Pray, of Dover, and prayer was offered by Rev. D. C. Roberts, of St. Paul's Church, Concord, after which the usual committees for the session were appointed, and delegates (Drs. Ira A. Russell and George W. Gay, from Massachusetts, and Dr. George Davenport, from Vermont, societies) were introduced, welcomed to seats, and invited to take part in the proceedings of the Association.

There were one hundred and twenty members present.

The Council Meeting was held the evening previous, and the report was read by Dr. M. W. Russell, Secretary, and was accepted, after which sixteen new members were elected and took seats with the Society.

DIPHTHERIA.

At 12 m., the President, Dr. Pray, read the annual address, choosing for his subject Diphtheria, discussing the etiology and the pathological conditions usually found, and making a strong appeal to physicians always to examine carefully and persistently into the sanitary conditions of the house and surroundings in cases of this disease, and gave some excellent hints as to the indications of a tonic plan of treatment. He closed with a brief summary of his own observations, saying he was convinced that croup and diphtheria were of the same origin, and essentially the same in development.

The address was accepted with a vote of thanks, and Dr. W. T. Smith, of Hanover, read an able dissertation upon Suspended Animation, and Dr. S. B. How, of Manchester, a report on Surgery, giving a detailed account of several cases that had come under his observation.

At 2 p.m. the Society adjourned to the Phœnix Hotel to partake of the annual dinner, after which the *post-prandial* exercises were under the direction of Dr. F. A. Stillings, of Concord, who presided as anniversary chairman, and able and excellent responses were made to appropriate sentiments by the President, the Chaplain, Drs. Russell and Gay, of Massachusetts, Dr. Hill, of Dover, Dr. Fowler, of Bristol, and others.

At 4.30 p.m. the Society again assembled in the Hall, and the reading of papers was resumed. The Secretary read an essay on the Province of Medicine, by Dr. M. C. Dix, of Hinsdale, who was unable to be present; and Dr. F. A. Stilling, of Concord, gave an able paper on Melancholia and its Connection with Ancient and Modern Suicides. These papers were referred, without discussion, to the Committee on Publication.

The Committee on the time and place of holding the Semi-Annual Meeting reported, through Dr. A. H. Crosby, of Concord, that the inducements presented by the managers of the Pemigewassett House, at Plymouth, had been accepted, and the meeting was to be held in September, and that, on the second day, by reason of the liberal offer made by the managers, there would be an excursion for the profession and their families upon Lake Winnepesaukee. The report was accepted, and the Committee of Arrangements was ordered to invite the New Hampshire Pharmaceutical Society, the district medical societies of the State (and such of the profession in other States as could easily arrive at Plymouth in one day), to be present, with their wives, and enjoy, with the State Association, a social meeting, with a day of rest and recreation from the cares of professional life. Report accepted, and the Society adjourned until 8 P.M.

Evening Session.

This Session was mainly devoted to the report on Necrology, by Dr. Hill, of Dover, who reported the deaths of Dr. N. Tolles, of Claremont, Dr. D. E. Wells, of Hill, Drs. A. R. Dearborn and B. E. Harriman, of Concord, and Dr. A. C. Whipple, of Ashland. Appropriate obituary notices of the above were read by Dr. J. S. Swett, of Newport, Dr. H. B. Fowler, of Bristol, Drs. Cook, Crosby, and Conn, of Concord, which were accepted and referred.

The remainder of the evening session was devoted to the discussion of papers, and several interesting cases were reported. Dr. Russell, of Concord, reported a case of rheumatic pericarditis, in which the temperature was persistently high, 102° to 104°, and the respiration so much increased as to make it very difficult to count. The case being fatal, *post-mortem* showed that the plastic material effused upon the surface of the pericardium had become organized into growths resembling the fern in vegetable organization; and the lungs seemed to have suffered secondarily from the pressure of the over-worked central organ.

INGUINAL HERNIA—SUPPLEMENTARY SAC.

Dr. Crosby, of Concord, reported an operation for direct inguinal hernia, in which the strangulation had existed about seventy hours. The tumor was oblong but very hard. Upon cutting down, he exposed what looked like the hernial sac, and after nicking the edge of the ring, he attempted to reduce the mass, but failed. He then laid the sac open freely, releasing a considerable quantity of serum, and exposed a dark colored mass of omentum, which was enveloped in another sac. This contained very little, if any, fluid, and could not be reduced. The covering was, *apparently*, a true hernial sac, and this in turn was opened, and disclosed a mass of omentum, very dark in color, but not disintegrated at all. The ring was now touched for the third time with the hernial knife, the protruded mass gently restored to place, and the wound dressed in the usual manner. The knuckle of omentum probably broke down, as there was subsequently a profuse discharge of foul pus from the opening, and the man made a fair but slow recovery. The interesting point in the case was the existence of the supplementary sac, resembling, as it did, the true hernial covering. From its situation and size, it could not have been a hydrocele of the cord. Dr. Stillings stated that Gross had described a similar anomaly, but did not attempt to explain it.

Second Day.—Morning Session.

After the election of officers, and the dispatch of some routine business, a general discussion ensued upon various matters of practice.

SCARLET FEVER AND SMALL-POX.

Dr. Wheeler, of Pittsfield, reported a case in which a child, recently vaccinated, had incurred an attack of scarlatina, and the two diseases progressed simultaneously, resulting in death. The character of the rash was modified by the cow-pock.

Dr. Parsons, of Portsmouth, reported an epidemic of small-pox in his neighborhood, caused by a good-natured woman, who, having contracted the disease elsewhere, came home and distributed crusts from her pustules, with instructions to *vaccinate* themselves, and thus escape her malady.

MALIGNANT TUMOR OF THE BREAST.

Dr. Wheeler reported a case which had been seen the previous day by several members of the Society. A woman, aged about forty, whose mother died of schirrus breast, began to suffer three years ago with pain in the dorsal spine, which was treated as neuralgia, but never wholly relieved. Within a few months a "dimple" appeared under the breast, upon the inner side, near the sternum. At the base of this depression is an induration, the size of half a chestnut, firmly attached to the sternal end of the rib. There has been but little pain at this point, but there is a line from this to the spine which is tender upon pressure. The case was discussed by Drs. Howe, Parsons, Weymouth, Crosby, and others. While a majority thought it malignant, others regarded it as a neurosis simply, and suggested galvanism to establish the diagnosis, and, perhaps, cure it.

The delegates to Dartmouth Medical College, and to other State Medical Societies, made reports, and the secretaries of the several District Societies gave an abstract of the work of their respective associations.

The Auditors reported the Treasurer's account to be correct. All of which was accepted without discussion, and referred.

By special order, at nine o'clock, the following officers were elected. Also a council of twenty members and ten censors, as well as committees to report at the next annual meeting.

OFFICERS ELECTED.

President, Dr. G. P. Conn, Concord; *Vice-President*, Dr. H. B. Fowler. Bristol: *Treasurer*, Dr. L. B. How, Manchester; *Secretary*, Dr. M. W. Russell, Concord; *Anniversary Chairman*, Dr. C. A. Tufts, Dover.

Executive Committee, Drs. P. A. Stackpole, Dover; J. W. Parsons, Portsmouth; and A. H. Crosby, Concord.

The further discussion of papers and cases then took place, until adjournment at 12.30.

The next annual meeting will be held at Concord, on the third Tuesday of June, 1881.

Astrological Pathology.—Under this head the *Lancet* states that in the coming fall, the planets Jupiter, Saturn, Uranus, and Neptune will be in perihelion simultaneously. This has not happened before for more than eighteen hundred years. An Irish prophet asserts also that the "Star of Bethlehem" will make its appearance in the horizon during August. These celestial events are to usher in the disastrous outbreaks of many pestilences—a veritable saturnalia of death. We are to anticipate a recurrence of the terrible pestilences which concurred with the earlier years of the Christian era, and of which the recent irruptions of plague are the forerunners.

In view of this doleful prospect it is pleasant to feel that we have a National Board of Health, at any rate.

Correspondence.

"SANITARY ADMINISTRATION AND EPIDEMIC DISEASE."

To the Editor of The Medical Record.

Sir:—A paper bearing the above title appeared in the number of the Medical Record for June 26, 1880, and contains some statements which seem to me to require an answer.

The first part of the paper referred to, starts out with the assumption, that "disease, like its congener, pain, is not an evil," and lectures sanitarians for wasting their efforts in attempting to exterminate disease, when their efforts should be directed to remove the conditions which cause disease and death.

I think that this criticism of Prof. Lyman is hardly fair to sanitarians, for the great and ultimate object of all sanitary science is this very prevention and removal of the causes of disease.

Imperfect as our knowledge of the causes of many diseases still is, we have to thank, to a great extent, physicians interested in sanitary science for such information as we possess.

Numberless illustrations of the truth of this statement might be given, but I will only here mention the valuable information recently given by Dr. Thorn, of England, concerning the late outbreak of typhoid fever at Caterham, England, last year; also, the late interesting researches of Dr. Benjamin Browning, concerning the propagation and artificial production of diphtheria in man and inferior animals.

But to return to the first part of Dr. Lyman's statement, I venture to dispute in toto the proposition that disease and pain are not evils. It is, doubtless, perfectly true that man, like all other organic forms, is born to die, and the fact of his birth presupposes his death.

But death by disease, such as the physician has to deal with, is not the normal way in which life should gradually and painlessly terminate.

If every human being were born of perfectly healthy parents, and from the time of his birth were placed under proper sanitary and hygienic conditions, this life would end by a gradual and painless cessation of being.

Disease, in other words, is a result of a want of proper correspondence between the habits and mode of life of the individual and his environment; hence it is not in consonance with the normal law of nature, but antagonistic to it.

But a still more questionable statement is made by Dr. Lyman in the following words: "But if quarantine shall fail to keep out the infective agent, we must rely on local sanitation and personal hygiene, upon actual deportation of the movable population, and the most rapid possible diffusion of the disease, among those who elect to remain upon the infected spot, so that the epidemic period may be shortened and the number of acclimatized persons may be increased."

Farther on he says that "in proportion to the pandemicity and continuity of virulent diseases, will be the diminution of their danger."

While it is perfectly true that the cases found at the outbreak of an epidemic are generally more virulent and fatal than those found at a later period of the disease, yet it is absurdly incorrect to say that the general mortality from that disease is diminished by its diffusion among the population.

The history of all epidemics shows, I think, conclusively, that the fact is just the reverse of the statement made by Dr. Lyman.

The ratio of deaths to the number of cases is often diminished during the course of an epidemic, but the number of cases becomes so much greater that the mortality from the epidemic disease is increased.

Witness the epidemics of diphtheria, epidemic dysentery, scarlet fever, measles, etc., which have prevailed in our country during the present generation. Does Dr. Lyman mean to say that the mortality from these diseases was diminished by their spread in the community? Such a statement carries with it its own refutation.

This is also well seen in Great Britain, for nearly a century. Scarlet fever has been endemic therein, and has that fact diminished the mortality from scarlet fever in that country? By no means, it rages virulently to this very day, and it is estimated that from 60 to 70,000 persons died there from scarlet fever and its sequelæ, annually.

The following advice is given by Dr. Lyman concerning the prevention of epidemics: "The true way to prevent these revivals of epidemic disease is to cultivate its virus, and to maintain its presence in the community as carefully as we do in the case of small-pox."

This allusion to the use of vaccination for the prevention of small-pox is a very unfortunate one for the doctor's argument, for the fact is, we do not cultivate or maintain the presence of small-pox in the community by vaccination at all. The old and obsolete practice of inoculation did retain small-pox in the community, and for that very reason was abandoned.

Vaccinia, it is true, was and is produced from small-pox virus, but in passing through the changes it undergoes in the cow a new disease is produced, local and protective in its character, and which is quite different from variola.

But the cream of Dr. Lyman's article shows itself in a later paragraph, in which he says:

"By weeding out the feeble offspring of the community, the prevalence of epidemic disease is a constant source of vigor to the community."

In the language of the immortal "Boz," "here's richness for you."

In other words, we are advised to retain epidemics in our midst to kill off our weakly children. How does that sound when put down in plain English?

A much shorter and more effective method would be to do as the ancient Spartans did, namely, expose them to wild beasts, or drown them as is now done to female infants in China.

I would like to ask, in all seriousness, where can be found any proofs of such statements? How is it possible that the destruction of thousands of lives, and the mutilation of other thousands by lesions of important organs, which are the well known results of epidemics of scarlet fever and other like diseases, can in any way affect favorably the human race.

Has not history shown, by irrefragable proofs, that the vigor and length of life in modern times has increased, whilst many of the epidemic diseases, such as the plague, typhus fever, small-pox, etc., have almost disappeared from the world's history?

The hands of the men of our age are too large to grasp fittingly the sword-handles of our Norman ancestors, and our bodies too large to be covered by their armor.

Robert Reyburn, M.D.

Washington, D. C.

ASBESTOS ROOFING FELT AS A MATERIAL FOR SPLINTS.

To the Editor of The Medical Record.

Sir:—I wish to call the attention of the profession to the great advantages of asbestos roofing felt as a material for plastic splints and other moulded apparatus. I have for some considerable time made use of this article in my practice, and have found it preferable to any other material yet proposed for such uses. A brief statement of its qualities will show how greatly it excels pasteboard, leather, starch, plaster, or gutta-percha.

1st.—It is rendered perfectly soft and flexible by brief immersion in water, of a temperature which can be borne by the hand without difficulty.

2d.—It retains its plasticity quite long enough to allow of careful adaptation, while its stiffness is instantly restored by a dash of cold water.

3d.—While soft it does not change dimensions, as is so often, and annoyingly, the case with gutta-percha.

4th.—It remains unchanged after indefinite exposure to the heat and moisture of the body. Nor is it affected by any of the ordinary lotions, etc., applied in cases of wound or fracture.

5th.—It is perfectly antiseptic on account of the coal tar with which it is saturated, a quality which of itself would especially commend the use of the article in all cases of compound fracture.

6th.—It is so cheap that its cost is hardly worth estimating, even in large institutions.

The felt which I have used is manufactured by Johns & Co., New York. It is, however, probable that there are other articles of the kind in the market, which will be found equally available.

Stuart Eldridge, M.D.,
Surgeon to General Hospital, Yokohama.

Yokohama, Japan.

* * *

PERSISTENT PRIAPISM.

To the Editor of The Medical Record.

Sir:—The case of persistent priapism reported by Dr. G. L. Peabody, in the *N. Y. Medical Journal*, May, 1880, and copied into the Record of July 3d, brings to mind a similar case which came under the writer's observation in September, 1870, notes of which have been preserved. The subject was an American, a farmer's boy, nineteen years old, who, for several years previous to the attack, had exhibited the characteristics of paludal cachexia, and had been treated for the same. He had also received treatment for caries of the tarsal bones of the left foot. The priapism began on the 8th of September and continued nearly five weeks. During the first twenty days of the attack, pain and discomfort were excessive, being precisely like that experienced in gonorrhœal *chordée*. The temperature and pulse were both largely increased, especially at night, when the pain was also more severe. Urination was frequent, but unobstructed, and there was a copious urinary deposit of yellowish colored sand, which, on examination, was found to consist of uric acid crystals. The blood was not examined, but symptoms and appearances of leucocythæmia were all present. The spleen was greatly enlarged, and the cervical glands were prominent and indurated. The skin was pale and waxy; the muscles of his legs and arms were weak and trembling; palpitations were complained of, but no abnormal heart-sounds were noticed. Epistaxis occurred twice during the continuance of the priapism. There was considerable bronchial catarrh and cough. The principal remedies used were quinine and iron, with anodynes to relieve pain. Cold applications, locally, increased the distress. Warm fomentations afforded slight relief. At the end of the fifth week the organ had about regained its natural size, and the patient's general condition had somewhat improved. The leucocythæmia was not cured, however, and about eleven months afterward the patient succumbed to its effects.

If Dr. Peabody's case is the seventh recorded instance of persistent priapism occurring in leucocythæmia, this one may, perhaps, be numbered the eighth.

Very truly yours,
G. F. Wetherell, M.D.

Lyons, Iowa.

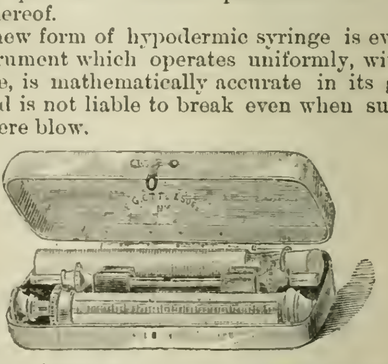
New Instruments.

THE CELLULOID HYPODERMIC SYRINGE.

The Celluloid hypodermic syringe, constructed entirely of celluloid, supplies an article which is perfect of its kind. The barrel is clear and transparent, and thus embodies all the good qualities of glass in this connection; but, being made of celluloid, it possesses the toughness and strength of this material, and cannot be broken even by the roughest usage. In addition to its singular strength and durability, the celluloid syringe avoids in its construction the inaccuracies and other disadvantages found in the graduation and operation of even the best glass syringes, because of the difficulty of obtaining a perfectly true cylindrical bore in the glass tubes.

The transparent celluloid syringe barrels are manufactured upon a mandrel. This insures mathematical exactness and uniformity in the bore from end to end, and permits the utmost precision in the graduation thereof.

The new form of hypodermic syringe is evidently an instrument which operates uniformly, with perfect ease, is mathematically accurate in its graduation, and is not liable to break even when subjected to a severe blow.



These syringes are put up in handsome celluloid cases, which are themselves worthy of notice. They are very strong; are always clean and neat in appearance; are not easily scratched or defaced, and maintain a beautiful polish. They are made in various colors, with rounded corners, so as not to catch or wear the pocket, and are fitted with nickel-plated catches and hinges.

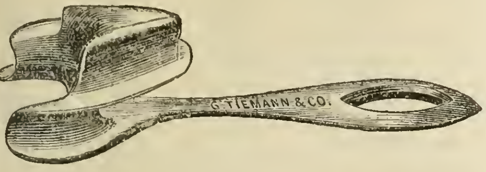
Every syringe is warranted as to strength and accuracy of graduation, and the manufacturers, F. G. Otto & Sons, guarantee to replace any celluloid hypodermic syringe, in which the barrel is broken by a fall from any height, or by other similar accidental shock or blow.

COMBINED MOUTH-GAG AND CHEEK RETRACTOR.

By J. O. ROE, M.D.,

ROCHESTER, N. Y.

The following cut represents a modification of the ordinary cheek retractor of Luer, by which it is at the same time made to answer the purpose of a most excellent mouth-gag.



The improvement consists in the addition of a triangular or wedge-shaped block to the external surface of the cheek-retracting portion of the instrument, as shown in the illustration, so that on introducing the instrument as a cheek-retractor, the wedge-shaped portion passes in between the teeth and thus distends the jaws.

This simple instrument I have found to be exceedingly convenient in operations about the mouth and throat, where the mouth and jaws are required to be distended and held by a mouth-gag. In several respects it has advantages over the metallic gags. It gives a greater amount of oral room, as it is only necessary to introduce a gag on one side, a simple retractor on the other; thus both sides of the mouth or cheeks are drawn back to their greatest extent, leaving the whole mouth free and clear.

They can be readily made self-retaining by simply passing a cord through the hole in the handles and tying it behind the head.

Another advantage which it is found to possess, is the ease with which it can be retained during protracted operations. In those gags where the bearing is on the anterior portion of the jaws, in distending the mouth widely it often becomes painful and distressing to the patient unless under an anæsthetic; but with this form the bearing directly antagonizes the masseter muscles, and affords direct support for the distended jaws.

In operations where the tongue must be held down, as in staphylorraphy and uraniscoplasty, it can be easily done by the Sass depressor, or the very convenient self-retaining tongue-depressor of Dr. Goodwillie.

In operations on children, it is very convenient, and being made of wood is less formidable in appearance than a metallic instrument.

This gag may also be used by dentists in many cases of operations, with not only facility to themselves, but with decided relief to their patients.

The instrument can be made of rubber, wood, or any suitable material.

If made of box-wood, as cheek-retractors usually are, it is best to have the gag portion made of some softer wood or rubber, which is not so severe on the teeth, and which may be fastened to the retractor afterward.

They may be made of different sizes to fit the various-sized mouths, or the gag portion, if made detachable, can be made of any size to meet the requirements of any case.

The instrument is manufactured by Geo. Tiemann & Co., New York.

A NEW FORCEPS FOR HOLDING CURVED SURGICAL NEEDLES.

By J. T. MATHIS, M.D.,

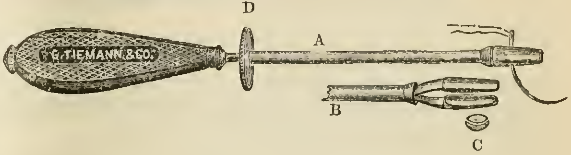
AUSTIN, TEXAS.

It has long been a desideratum in the field of surgery to have a needle-holder which will hold the needle firmly, and, at the same time, prevent it from turning and cause the operator to lose his control of its direction.

That desideratum is attained in a needle-forceps having one concave and one convex jaw. The concavity is designed to fit the convexity of the curve of the needle, while the convex mandible ought to fit the concavity of the curve of the needle.

There is nothing in the instrument claimed as new except the arrangement of the jaws. The depth of the concavity of the female blade constitutes the lever which prevents the needle from turning. The needle cannot turn.

When properly adjusted in the forceps, it need not break. The eye of the needle should not be held between the jaws.



In the figure, A shows the whole instrument closed, holding the needle for use in the left hand. The forceps may be used in either hand.

B shows the jaws open. They are closed, fastening the needle, and opened, releasing it, by means of the cylindrical slide moved by the fingers acting upon the button D.

C represents a transverse section of the closed jaws, showing the space between them an arc of a circle, as a receptacle for the needle. This arc belongs to the same circle as the needle to which it is adapted.

The only question to be settled by the surgeon in making his order for forceps pertains to the sizes of the needles which he may wish to use. The proximal end of the jaws is suited to the largest needle in the list, and the distal end to the smallest. The intermediate space is adapted to all the intervening sizes. But little practice is necessary to enable the surgeon to adjust any needle in his list to that part of the jaws to which its size is fitted. I have also ordered Geo. Tiemann & Co., my instrument makers, at 67 Chatham St., New York City, to adjust the same jaws to the principal mechanical arrangements of Dr. Sands's forceps, and also to another mechanical arrangement which may be presented to the surgical profession at no distant day.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from July 25, 1880, *to August* 7, 1880.

Fryer, B. E., Major and Surgeon. Granted leave of absence for twenty days. S. O. 161, Department of the Missouri, July 26, 1880.

Webster, Warren, Major and Surgeon. His leave of absence extended one month, provided he furnishes satisfactory medical attendance during his absence. S. O. 124, Department of the East, July 27, 1880.

King, Wm. H., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for an extension of three months, on surgeon's certificate of disability. S. O. 87, Department of Dakota, July 21, 1880.

COMEGYS, E. T., Captain and Assistant Surgeon. So much of S. O. 135, C. S., from these headquarters, granting him leave of absence on surgeon's certificate of disability, is revoked. S. O. 144, Department of Texas, July 19, 1880.

BENHAM, R. B., First Lieutenant and Assistant Surgeon. Having reported at these headquarters, is assigned to duty (temporary) at Fort Snelling, Minn. S. O. 87, C. S., Department of Dakota.

GORGAS, W. C., First Lieutenant and Assistant Surgeon. To report to the commanding officer, Fort Clark, Texas, for duty. S. O. 147, Department of Texas, July 23, 1880.

STRONG, NORTON, First Lieutenant and Assistant Surgeon. Assigned to temporary duty at Fort Douglas, Utah. S. O. 70, Department of the Platte, July 31, 1880.

Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending August 7, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
July 31, 1880.	0	12	22	5	16	46	0	0
Aug. 7, 1880.	0	15	20	1	11	30	0	0

THE MEDICAL DEPARTMENT OF THE ARMY.—Four years ago the Medical Department was reorganized and reduced from 209 to 192 officers of all grades, twenty-five assistant surgeons with the rank of first lieutenant and four storekeepers with the rank of captain being deducted, and eight colonels and four lieutenant-colonels added, making a net decrease of seventeen. When the reorganization was carried out there were half a score of vacancies for assistant surgeons, notwithstanding the reduction. The annual appointments since then have barely equalled the annual casualties, and the reduced legal complement of this class of officers has not yet been completed. At present there are nine vacancies, with a prospect of others as soon as certain incapacitated officers shall have been retired from active service. One of the vacancies has existed since March, 1879, and the others for periods varying from two months to twelve.

Some comment has been aroused by this state of things. It is not, however, very hard to be accounted for. The standard of admission to the service is very high. In order to prepare himself for it, the student must, generally, go through a special course of cramming, which involves money and much hard work. Few of the best men care to enter a service which takes away their personal independence, and which offers very slow promotion, a comparatively small income and scarcely any chance of medical or surgical distinction. Our Army and Navy Medical Service has had much less difficulty in getting good men than has been the case in England, where the medical education is not thorough.

THE EFFECT OF HEAT UPON THE DEATH-RATE.—The two very hot spells which this city endured in June and July, have led to a comparison of statistics, which illustrate very well the effect of heat upon the mortality, especially among the children. We present the following tables:

		Highest No. of Deaths.	Mean Temperature, Fahr.	Mean Humidity.
1870..........	July 22	1,010	82.31	54
1871..........	July 15	822	79.5	62
1872..........	July 6	1.591	83.9	75
1873..........	July 19	917	72.8	65
1874..........	July 25	861	74.8	56
1875	July 24	939	72.6	69
1876..........	July 15	1,293	83.9	68
1877..........	July 14	825	74.0	74
1878..........	July 13	741	77.8	70
1879..........	July 19	772	76.3	64

The total number of deaths, by weeks, for June, 1879 and 1880, has been as follows:

1880.		1879.	
June 5............	501	June 7............	490
June 12...........	479	June 14...........	441
June 19...........	707	June 21...........	473
June 26...........	1,038	June 28...........	562
Total.........	2,725	Total.........	1,966

Of children under one year of age the number is as given below, showing the rate to have nearly doubled this year:

1880.		1879.	
June 5....... ...	112	June 7......... ..	101
June 12...........	144	June 14...........	97
June 19...........	278	June 21...........	156
June 26...........	529	June 28...........	217
Total.........	1,063	Total.........	571

VIRCHOW has been returned to the German Parliament for the second electoral district of Berlin, as the candidate of the United Liberals.

SEVENTH ANNUAL CONFERENCE OF CHARITIES AND CORRECTION met at Cleveland, June 29th, 30th, July 1st and 2d. Gen. Brinkerhoff, President. A large number of delegates, representing sixteen States, was present. New York was represented by Dr. Chas. S. Hoyt, of Albany, Secretary of the State Board of Charities and Correction; Dr. David Rogers, of Queens County Insane Asylum; Dr. John G. Shaw, of Flatbush Insane Asylum; Drs. Seguin, Beard, and others.

After the usual introductory speeches, the president delivered his annual address. This was an admirable *résumé* of the condition and methods of working of the various charitable and correctional institutions of each State. It will form a valuable mine of information upon the subject. Of New York he said, "she is in the front rank in charitable and correctional institutions, and in some respects is in advance of all others. Her Reformatory at Elmira is in most respects the best model for prison management in America, and her Asylum for Chronic Insane, in a large degree, has solved the problem of economy and comfort combined in the care of that unfortunate class.

On the second day, Mr. F. B. Sanborn was elected president. Various papers were read in regard to the treatment of juvenile offenders, the care of delinquent children, and the subject of immigration. The most notable address was by Mr. Henry W. Lord, Secretary of the Michigan Board of Charities, "On Prisons and Prison Discipline." Most of the address was devoted to an argument against capital punishment. The paper made a marked impression.

The third day was devoted to the discussion of the care of the insane. The report of the Committee on Insanity was read by Dr. J. P. Bancroft, Chairman. This was followed by a paper by Dr. R. Gundry, Superintendent of the Maryland State Asylum, "On the Care of the Insane." In these papers, and in the discussion following them, opinions favorable to non-restraint and to the greater occupation of patients were expressed. Dr. John G. Shaw, of Brooklyn, read a very candid and practical paper "On the Value of Non-restraint in Treating the Insane." He was followed by Dr. E. C. Seguin, who spoke on the right of the insane to liberty. A paper by Dr. Nathan Allen, "On the Supervision of Asylums," was read by Miss A. A. Chevalier. Dr. Geo. M. Beard made some remarks on the need of an association for the protection of the insane. A letter from Dr. Nathan Allen, of Massachusetts, was read, in which he expressed his hearty sympathy with the project of forming such an association.

Resolutions were unanimously adopted, recommending that greater facilities be furnished the insane for employment and occupation; condemning the architectural construction of many of the asylums on the score of their cost and inadequacy to meet the best needs of the inmates; endorsing the plan of separating in most cases the chronic from the acute insane; and recommending that consulting boards of physicians be attached to insane asylums.

A National Association for the Protection of the Insane was organized with the following officers: President, H. B. Wilbur, of Syracuse, N. Y.; Vice-President, Nathan Allen, of Lowell, Mass; Treasurer, Geo. M. Beard, New York, and a council of fifteen, embracing a number of physicians, among whom are Dr. Mary Putnam-Jacobi, Dr. John G. Shaw, and Dr. Seybura, of New York. The Association will meet in New York, the last week of next September, to perfect its organization.

The remainder of the session was occupied with matters having but little medical interest.

Fees for Testifying as Experts.—The South Carolina Legislature, at the instance of the Abbeville Medical Society, has passed a law giving physicians $10 for testifying as experts in any medical case, also the mileage and per diem pay accorded to ordinary witnesses.

The American Medical College Association and the American Medical Colleges.—From the report of the Committee of the American College Association, we learn that sixty-three regular medical colleges now exist in the United States, of these, twenty-eight publicly conform to all the requirements for active membership in the American Medical College Association. Thirty-five do not thus conform, of which number, sixteen fail apparently from oversight only. Six of the colleges do not require evidence of three years' study as a requisite for graduation. Two colleges do not require attendance upon more than one course of lectures. The regular term of five colleges is less than twenty weeks. Four colleges grant *ad eundem* degrees on a simple examination in the practical branches. Three colleges hold lectures in the evening.

The American Medical College Association now includes thirty-one active members. During the past year three colleges resigned, viz.: The Medical Department of the University of Vermont; The College of Physicians and Surgeons, of New York, and The Bellevue Hospital Medical College. Five colleges were admitted to active membership, viz.: The Cincinnati College of Medicine and Surgery, Medical College of Indiana, Nashville Medical College, Savannah Medical College, St. Joseph Hospital Medical College, and Kentucky School of Medicine.

The Association claims that, as the result of its four years' work, it has, (1.) Greatly diminished the number of diplomas that are bestowed without thorough study and examination. (2.) It has diminished the number of "dead-heads" in the several medical classes. (3). It has increased the revenues of the colleges as a whole. (4.) It has greatly promoted uniformity in medical training and in requirements for graduation. (5.) Its standard has been formally adopted by nearly all the colleges that started during its existence. (6.) All the two-term (in one year) schools have disappeared, and with but two exceptions (the University of Virginia and the Harvard Medical School), it is impossible for a medical student to complete his college work within one year, at any regular college or colleges of the United States.

The Association, besides voting that attendance on three full courses of lectures be made a requisite for graduation, passed an amendment accepting a certificate of two years' study such as is given at Cornell, as an equivalent to the first year's course. The proposed extension of the course to three years is to be enforced after the session of 1882–3.

Dr. E. C. Wendt, of this city, has been appointed to the Chair of Comparative Anatomy, Embryology, etc., in the Columbia Veterinary College.

Dr. Tanner's Fast was completed at noon, August 7th. Dr. T. suffered a great deal from attacks of retching and vomiting during the last few days, and he could not have endured much longer. His pulse, temperature, and respiration continued about normal, and his mental faculties were not impaired. His weight at the end of the fast was 121½ pounds, a loss, during the entire forty days, of exactly thirty-six pounds. As soon as the fast was ended, he drank about seven ounces of milk and ate some fruit, and during the afternoon and evening he repeatedly took nourishment, among other things two half-pounds of steak. He has continued since to eat and drink largely and frequently, his diet-list including beef-steak, potatoes, beef-tea, oysters, boiled eggs, crackers, fruit, milk, ale, and wine. Not the slightest trace of nausea or sickness has appeared since the close of the fast, and the doctor is in excellent spirits and is gaining strength rapidly. His weight, at noon, August 9th, forty-eight hours after the close of the fast, was 132½ pounds.

A New Dispensary for Women and Children was opened at Harlem, July 12th. The house physician is a woman. A majority of the medical staff are also female physicians.

The Apostle of Cremation, Giovanni Apolli, was incinerated at Milan, recently, with much ceremony. It was the sixty-eighth case of cremation at Milan in the last four years.

Dr. J. J. Woodward on the Pathological Histology of Yellow Fever.—In a supplement to the Bulletin of the National Board of Health for April 24th, Dr. J. J. Woodward has presented the results of his study of the pathological specimens brought from Havana last summer by the Yellow Fever Commission.

Dr. Paul Broca, Physician and Senator.—Dr. Paul Broca died recently at Paris. He was born at Sainte-Foy-la-Grande (Gironde), June 28, 1824, studied medicine under his father, who was a distinguished physician, graduated at an early age from the Paris Faculté de Médecine, and became an assistant in the metropolitan hospitals in 1844. He soon gained prizes for skill, became a demonstrator of anatomy and prosector, and graduated as M.D. in 1849. He then pursued a course of surgery at the École Pratique, published in 1852 a treatise on the "Pathological Anatomy of Cancer," took his surgical degree in 1853, was successively surgeon of the Bicêtre, the Salpêtrière, the Saint-Antoine and the Pitié hospitals, and became professor of surgical clinics at the latter institution. He was one of the earliest surgeons in France to make a specialty of the science now known as anthropology, and it was largely through his efforts that the flourishing French Society of Anthropology was founded. He was long its secretary-general and the director of the School of Anthropology, as well as of the Anthropological Laboratory at the École des Hautes Études. He was also a prominent member of the Surgical, Biological, Philomathic and Anatomical societies, and an honorary or corresponding member of the leading scientific societies of Europe and America. He was elected a member of the Imperial Academy of Medicine, July 26, 1866, and was decorated with the Cross of the Legion of Honor in 1868. He published treatises on "Abdominal Hernia" (1853), on "Aneurisms" (1856), on "Fractures and Osseous Regeneration" (1859), on "Surgical Hypnotic Anaesthesia" (1859), on "Chronic Abscess of the Medullary Canal" (1859), on "Resuscitating Animals" (1860), on "Animal Hybridity in General, and Human Hybridity in Particular" (1860), a "Treatise on Tumors" (1865), and was author, along with C. Bonamy, Emile Beau, and L. Hirschfeld, of a magnificent "Descriptive Atlas of the Anatomy of the Human Body (1856 *et seq.*). In the line of anthropological researches his chief publications were: "General Instructions for Anthropological Researches" (1865), "The Physical Character of Prehistoric Man" (1868), The "Comparative Anatomy of Man and the Primates" (1869), and the preface to Dr. Paul Topinard's popular work on "Anthropology" (1876). Dr. Broca was the president of the Congress of Anthropology held at the Trocadero, Paris, in 1878, in connection with the Universal Exposition of that year. He was the earliest prominent French physician to accept the Darwinian doctrines of development, of which he became the most noted representative in his country. In February, 1880, he was elected a life senator in place of Count Montalivet, after having been unsuccessful in one ballot, on account of his Darwinian doctrines. He was a consistent supporter of moderate republican doctrines.

"Science" is the name of a new weekly journal, exclusively devoted to chronicling the progress of science, and to discussing its problems. It is intended to take such a place in this country as *Nature* holds in England. The editor is Mr. John Michels, and he is supported by a numerous corps of associates, including several members of the medical profession in this city, Boston, and Washington. The first number is a good one, and gives a fair promise of the success of the enterprise.

Trephining.—In the report of the two cases of trephining published in a recent number, the name of the author should have been Dr. H. R. Kelly.

A Gorilla Cadaver—Dr. Thos. G. Morton, of the Pennsylvania Hospital, has recently received from Africa a large female gorilla, preserved in alcohol. The animal is about four and a half feet high, and, as it lies in a tank covered with a glass top, has much the appearance of a human being. The similarity is greatly increased by the fact that the dark epidermis and long hair with which it was covered, have been almost entirely removed by maceration in the fluid. A few days ago it was removed to the garden of the hospital and photographed in the erect position. It will probably be studied and kept in one of the scientific museums of Philadelphia.

Plans for Healthy Tenements.—By invitation of the City Board of Health, a number of leading plumbers, architects and others interested in the construction of dwelling-houses, met in the office of the Health Board, July 8th. A number of sanitary points were discussed. They recommended in general that better work and better workmen be employed in plumbing houses and in the construction of sewers. They further recommended air- and water-tight joints and traps; also that sewers and soil-pipes be made of iron; that traps be ventilated, and that the systematic use of deodorizers be discouraged as tending to conceal without destroying foul gases. There was a difference of opinion as to whether traps should be placed between houses and street sewers.

The Sanitary Inspections of the Tenement-Houses.—Fifty inspectors began their work on July 1st, and by July 3d had inspected 2,873 houses, had visited 18,953 families, and prescribed for 607 children, besides distributing tickets to the Floating Hospital. The number of families visited per week is usually about 50,000.

The Night Medical Service.—At a meeting of the City Board of Health, July 27th, the registrar of vital statistics was directed to appoint an executive officer, to be selected from the clerks or other employés of the sanitary bureau of records, to serve without any additional compensation. Casper Golderman was appointed cashier, and requisitions were received for books and stationery for the service.

The State Board of Health has begun the exercises of its functions by declaring a pest-hole at Buffalo a public nuisance, and ordering it to be abated. Their attention has also been called to the guano manufactories and other sources of stenches in Long Island City.

Books Received.

Ueber die Physiol. Wirkung und Therap. Verwerthung der Sclerotinsäure, des Sclerotinsauren Natriums, und des Mutterkorns. Von Dr. Woldemar Nikitin. Würzburg: Stahlschen Buchhandlung.

Transactions of Indiana State Medical Society. 1880.

Traité d'anesthésie chirurgicale, contenant la description et les applications de la méthode anesthésique de M. Paul Bert, par le Docteur J. B. Rottenstein, Paris. Librairie Germer, Baillière et Cie. 1880.

Pathology, Diagnosis and Treatment of Diseases of Women, etc., by Graily Hewitt, M.D. Third American from third London edition. Phila.: Lindsay & Blakiston.

Original Communications.

SUPPURATIVE DISEASE OF THE ANKLE IN CHILDREN AND YOUNG ADULTS.*

A Record of Twenty-six Cases.

By THOMAS E. SATTERTHWAITE, M.D.,
NEW YORK CITY.

Soon after the Therapeutical Society of this city undertook an inquiry into the treatment of carious ankles, so many records of good results were placed in the hands of the Surgical Committee, that it was thought desirable to report in brief a summary of the conclusions that had been reached. Accordingly, at the ninth regular meeting of the Society, Dec. 19, 1879, this was done by the chairman of the committee. A synopsis was then given of twenty-four cases, which demonstrated clearly that the expectant plan pursued in most instances was competent alone to effect a satisfactory cure, with a very inconsiderable loss of function and within a reasonable time. These conclusions have since been further sustained by Dr. V. P. Gibney, in an elaborate paper,† wherein he reviews the final results in thirty cases that came under his own observation, fourteen of which are additional to the sixteen he has contributed to this present report. Dr. G. calls attention to a fact which has more recently been recognized by surgeons and orthopedists on both sides of the water, viz.: that many children annually suffer amputation of the foot, when, under conservative treatment, the member could have been saved. He further boldly states that neither excisions, partial or complete, nor other operative procedures, offer advantages superior to the expectant plan, which at once assures a more perfect result than any known to the profession. The expectant method which Dr. Gibney employs he defines in the words of the preliminary report. They are as follows: "If the joint is inflamed, entire rest is ordered; if abscess form, it is opened; if loose bone be detected, it is simply removed, as if it were a foreign body interfering with the process of healing; if in the further progress of the case malposition of the parts is found, a support or brace is given to rectify the deformity." Attention to the general health is also imperative, as may naturally be inferred. This method is simply one that addresses itself to immediate symptoms and recognizes any treatment that would suggest itself to a practical surgeon or orthopedist, provided only he does not practise chiselling (gouging), excision, setoning, or amputation, all of which may properly be regarded as operations of a systematic character.

It may not be amiss to state that the details of the cases in the hands of the committee have been most complete, and comprise a fund of great interest and value. The practical character of the report, however, precludes even a synopsis and much less an enumeration of all these points. It may be interesting to know that the number of affected males and females was equal, also that the majority (11) were attacked between the ages of six and thirteen. Under six there were eight, while over thirteen and under seventeen (the age of the eldest) there were seven.

One always approaches the etiology of a disease with caution. This should be particularly true in this affection, as it is a matter which is capable of giving rise to as great a diversity of opinion as morbus coxarius or Pott's disease. With a large class of people it is much more satisfactory to connect a disease with some well-defined cause, such as a fall, blow, or a sprain which the person had experienced at some previous period, even if the injury was trivial and had almost been forgotten. So much weight is apt to be placed upon such statements, that the personal and family history are not investigated with a proper amount of care, and the presence of a marked cachexia are not distinctly realized. In the present instance these remarks do not apply, because inquiry was directed into both conditions with equal closeness. But, in order to weigh each assumed factor properly against the other, *i. e.*, traumatism against a constitutional infection, we have been careful to institute a comparison only in those cases where a positive or negative statement was obtained on each point. Of these cases (sixteen), it appears that in only four there was an alleged injury without the suspicion of blood disease, but in five others the two were associated together. On the other hand, a cachexia without traumatism was noted in five. In the two remaining there was positively no record of an injury, and the personal and family history was excellent—an interesting circumstance, suggesting that there may be causes apart from a traumatism or cachexia. Not the least remarkable of the conclusions is that in thirteen the bone was thought to be the point from which the disease originated. In only two children were the soft parts first invaded. The extent of the bone-lesion is a matter that unfortunately we have no means of deciding, except where a systematic operation has been performed, or at a post-mortem examination; but to this matter allusion will again be made. It was a matter of less difficulty to determine the duration of suppuration, and this introduces another important but incidental consideration. In two instances suppuration did not exist, and the patients experienced a satisfactory cure. The explanation is as follows: caries, it is well known, sometimes persists for a time and then undergoes spontaneous resolution; or, in other words, a certain amount of disorganization may go on in a joint, and yet no discharge take place at any time. The pulpy material which takes its origin from the diseased bone and gives to the hand the "cushiony" feel when the opposing bone-surfaces are pressed together, is in part absorbed and in part converted into a fibroid tissue, which acts as a substitute for the synovial sac and its contained fluid.

An additional reason for regarding such cases as true examples of caries lies in the fact that the usual symptoms which invariably precede caries were present.

In these same sixteen cases the duration of discharge varied between four or five months and five and a half years.

A relapse in the last instance caused the unusually prolonged period of suppuration. In the majority it did not exceed one year.

In coming to the comparison between a variety of methods a very large amount of material is obviously necessary before we can obtain results of any practical value. The reasons are obviously the same that are applicable to any form of treatment, medical or surgical. One attack may be very mild and almost any well-conceived plan will accomplish a favorable issue, while on the other hand the extent of disease may be so great that nothing short of amputation will offer the least hope. First of all, then, we inquire the amount of bone-lesion; to this subject attention has already been directed. We may usually form a fairly accurate opinion from the number of sinuses and their situation; but even then it is notorious, that if we have an opportunity to make a manual examination, as after an amputation, the number of bones attacked is always greater than appeared probable at first.

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* Final Report of the Surgical Committee of the Therapeutical Society on this topic.—T. E. S., Chairman of the Surgical Committee.

† Caries of the Ankle in Children, etc.: American Journal of Obstetrics and Diseases of Women and Children, April, 1880.

Then again, the disease may be limited to one or two bones which do not enter into the tibio-tarsal or medio-tarsal articulations. The result in such cases, when favorable, may seem perfect, because these important centres of motion have not been molested; on the other hand, a small focus of disease, involving these joints, will almost certainly diminish their function, even though a cure is obtained and lameness is not appreciated. Practically speaking, a cure means a useful joint, where all inflammatory conditions are at an end and the patient is able to use it in his daily avocations. The expectant method, chiselling, setoning, and excision, are all capable of accomplishing this object; but, for the reasons already mentioned, a comparison between them is practically impossible. Thus, Case XIX. was a more severe one than any that was successful under the purely expectant plan; and Case XXV. was one still more severe, involving the bones of the leg, tarsus, and metatarsus, and it is hardly likely that anything short of amputation would have been advisable.

The success of the expectant plan may be seen by its result in the cases where it was tried. Thus, in a total of sixteen, useful joints were obtained in fourteen, the average duration of treatment being two and one-half years, while there were only two failures. In one case the disease was of great severity, and the child died of exhaustive fever from prolonged suppuration; the other submitted to chiselling, and subsequently, excision. Gouging or chiselling was practised in five cases in conjunction with other methods, and gave a useful foot in three of them, one in the remarkably short space of four or five months. This period, which represents the entire duration of the disease, is the shortest of any, but left the child with a slight valgus, and it is the more remarkable as both ankles were involved. As opposed to such rapid cures, it may be questioned whether it is well to anticipate nature in her efforts at recuperation, for it is seen that the most perfect final results are those which nature has accomplished unaided. In place of the carious bone she deposits subperiosteally new material, which, gradually encroaching upon the disease. is ready to supplant it when the process of removal has been completed. Nor is the excision, complete or partial, always successful in arresting the carious process. The exfoliation often continues for months and years, and even occasionally seems to set up new disease manifestations of more rapid and dangerous character. This much may be said of the expectant method. In children and adults under fifteen years of age it is capable, in almost every instance, of saving the foot from amputation, and even excision, partial or complete. Further statistics will be necessary to show that it is slower than other methods, while, if successful, it affords a better result than any.

Though the normal mobility and size of the affected limb is scarcely regained, at least in early life, the disproportion is lessened with growing years, and the diminished motion at one joint is counterbalanced by increased mobility at another. Lameness is therefore seldom seen. The utility of the part is such that the patients may be reasonably sure of their ability to lead an active life without making use of any artificial support. In view of the facts, the deduction is very natural that surgeons, in these cases, should refrain from special operative procedures until the expectant method has had a thorough and prolonged trial.

Case I. (Dr. V. P. Gibney.)—About the first of February, 1870, a boy, eight years old, began to complain of pain and tenderness in his right ankle. The symptoms came on suddenly, and were thought to have been caused by an injury, the precise nature of which was not remembered. Inquiry also failed to discover any constitutional taint, whether inherited or acquired, nor could it be ascertained whether the disease originated in the bony or soft parts. The symptoms gradually progressed in severity, and on February 9, 1871, measurements showed that the right ankle was much enlarged (circumference over malleoli: right, 7¼ inches; left, 6⅞ inches), while the calf was correspondingly atrophied (circumference of right, 7¾ inches; of left, 8¾ inches). The other indications of chronic ankle-joint disease, such as puffiness, tenderness, obliteration of normal contour, and muscular rigidity, were well marked. It was observed, however, that when the opposing diseased joint-surfaces were brought together no sensitiveness was felt. On May 9, 1872, after the disease had continued more than two years, an abscess burst over the internal malleolus, and a sinus resulted. The discharge persisted for eight months, terminating in January, 1873. During all this time the treatment was expectant. On April 18, 1873, the child was discharged, and a record made in the hospital case-book states that he stood squarely on both feet, walking and running with perfect ease. Close observation was required to detect any limp. On manual examination there was found a slight anchylosis of the tibio-tarsal joint, but it was not tender on rough handling. Still, after excessive walking, the child complained of a little pain. The atrophy of the calf previously noted was still evident, the right measuring only 10¼ inches, the left 11½. Though the difference in measurement was but a trifle more in favor of the diseased limb than at the previous examination, relatively the improvement was marked, as the limb had increased much in size. The right ankle now was less in circumference than at the previous measurement (over malleoli: right, 6¾ inches; left, 7¼ inches). Length of right foot, 9½ inches; left, 10 inches. No shortening of the limb.

The foot can be flexed, etc., a trifle beyond 90°, but not to the normal. In extending, the os calcis moves perceptibly, while the point of the foot comes down almost equally with the other. Inverts and everts foot equally with the sound side. During the succeeding twelve months the patient led an active life and was free from pain, but it is said that subsequently he was tenotomized in the plantar region at a surgical clinic of this city. There is no scar indicating the site of the operation. The patient is now working in a piano factory.

The caries involved the lower epiphysis of the tibia, and probably the astragalus and scaphoid.

Case II. (Dr. V. P. Gibney.)—A little girl, eleven years old, of debilitated habit, after an attack of measles, but free from constitutional taint, unless possibly of a phthisical nature, on her maternal side, exhibited signs of joint-affection in December, 1869. There was no history of a previous injury. In the following month decided lameness was apparent, and the swelling had increased. On manual examination (April 4, 1880) the motion of the parts was resisted by muscular action. Contour was effaced, and the tissues had a pulpy feel and were inflamed, though not very tender. The bone was regarded as the primary seat of the trouble. Nocturnal pain was never present, nor did an abscess form at any time. The measurements at this time were as follows: circumference of right (diseased) calf, 7½ inches; of left, 9½ inches. A line passed around the malleoli showed that there was no difference between them. Over heel and instep the right measured 9, and the left 9¼ inches.

At the date of her discharge (April 30, 1873) flexion could be carried beyond 90°; extension, however, was not quite perfect; there was more than half the inversion of the other foot. She was in fair health, but walked with a slight halt; yet the ankle appeared normal and gave no evidence of pain, even after pretty rough handling. The treatment included the use of leeches, rest during exacerbations, moderate exercise at intervals, tonics alternating with cod-liver oil, massage, etc. A light support was subsequently put in use (expectant treatment). On final examination (Dec. 3, 1879) she was found to walk without lameness, though after excessive exercise there was a perceptible halt in the gait. A little grating, regarded as cartilaginous, was also detected at the tibio-tarsal articulation. Measurements: circumference of calf, right (diseased), 11 inches; left (sound), 12½ inches; length of right foot, 8¾ inches; of left, 9½ inches. The patient is now living at service, and her foot does not prevent her from doing ordinary work. It is not tender on pressure.

Case III. (Dr. V. P. Gibney.)—S. F., a girl of nine years, was attacked in the left ankle some time in 1866. Her family history was not positively, but probably, bad; for syphilis was suspected in both father and mother; a sister died at three years, of "water on the brain," and a brother at a younger age, of some unknown cause. She herself had occasional attacks of phlyctenular conjunctivitis. The disease, however, was laid to a sprain, but the precise point at which it commenced could not be located by the child when first seen (Oct. 12, 1871). Five years after the outbreak of the disease she was wholly unable to walk. There was good mobility and but little tenderness. Marked atrophy of the limb was shown by the calf measurements: right, 8; left, 8. Ankle measurements were not given. The treatment, prior to the time she came under the care of Dr. G., had been by poultices; subsequently it was the expectant. During the year 1868 a sinus formed, leading to carious bone. It closed within twelve months. When treatment was suspended (Dec. 2, 1872) there was slight shortening of the limb; the left (diseased) ankle was a little smaller than the right, and correspondingly the foot somewhat shorter (one-quarter inch). The patient was then described as a stout, robust-looking girl, walking with perfect ease and without any limp, but showing unsteadiness in her gait. There was fair motion at the joint, which exhibited neither pain nor tenderness on rough handling.

Case IV. (Dr. V. P. Gibney.)—M. A. D., a girl of the laboring class, ten years old, and living in a malarial district, was dropped from her nurse's arms, and soon after her ankle was found to be swollen and painful. This was in 1867. Her family history was tuberculous upon the father's and mother's side. In September of 1870 she had another fall and a recurrence of the symptoms in the ankle. On July 14, 1871, the joint was examined and found movable over about one-half the normal arc. The tendo-Achillis was a little shortened, and she could not walk without crutches. Abscesses had formed on the outer side of the foot, and were discharging. The right calf measured 6¼ inches; the left 8⅜; the circumference about the right malleolus and the leg above it were much increased by new deposits of bone; right foot one-half inch shorter than the left. On April 30, 1873, the patient was discharged cured. She was then said to be "the picture of health," standing squarely on both feet and walking without a limp. The treatment consisted in leeching, the application of adhesive strapping, blistering, poultices, and liniments. The purely expectant plan was only carried out during the latter part of the treatment.

Case V. (Dr. V. P. Gibney.)—J. C——, a girl fifteen years of age, fell from a wagon in July, 1870, and several weeks afterward complained of pain and swelling in the left ankle. She was then suffering from chronic catarrh of the middle ear, a sequel to measles, which she had had four years previously. On October 24, 1871, abscesses formed and discharged until some time in the year 1875, but what bone or bones were involved was never known. The treatment was expectant, and the patient left the hospital, cured, on May 1, 1873. She was then robust and in good health, walking upon the sole of the foot, though it was slightly everted. The motion was limited, but the ankle bones were not enlarged and there was no tenderness. Flexion could be carried to 90° and extension to one-half the normal. In- and eversion one-half the normal. At one time there was a little talipes equinus, but it disappeared under treatment. At a subsequent examination (December 6, 1879) there was found to be no lameness, and the patient had been able to dance for some years past, but she was unable to skate well, as the joint was not very mobile.

Case VI. (Dr. V. P. Gibney.)—A. A——, a boy nine years of age, fell a victim to the disease in the autumn of 1870. No reason could be given for it, and the family history, so far as was known, did not lead to any suspicion of inherited blood disease. Nor did the boy, during his sickness, show any cachexia. For about one year the usual symptoms of chronic joint disease were exhibited. Finally, abscesses formed and pus was liberated, the discharge continuing about six months, during which "time seven or eight pieces of bone" came away. The expectant plan was resolutely adhered to, and the patient was discharged, cured, April 30, 1873. He then stood squarely on both feet, but walked with a slight limp. Toes were a little everted and ankle a little stiff. Malleoli were somewhat enlarged. At the final examination, before the report was made (December 4, 1879), the patient was working in a barber's shop, and though actively engaged upon his feet suffered no pain. The usual atrophy of the affected limb was found (circumference of right calf, 10¾ inches; of left, 11¾ inches). Right malleoli was still enlarged. No difference in length between the limbs, but the right foot was one-half inch shorter than the left. Flexion was carried a little beyond 90°. In- and eversion almost complete. Some tenderness over the joint on firm pressure, but no lameness. General health good.

Case VII. (Dr. V. P. Gibney.)—E. N——, a little girl, 4½ years of age, was attacked while convalescing from cholera infantum. She then had chronic enlargement and suppuration of some submaxillary glands, associated with chronic suppurative otitis of the same side, with recurring attacks of naso-facial erysipelas. The first indications of the ailment were in March, 1872. Her right ankle then became swollen and painful. On August 29, 1873, an opening formed leading to carious bone. It closed finally in five months. Some two years later she walked easily and with a very little halt.

Case VIII. (Dr. V. P. Gibney.)—A little girl, six years of age, after an attack of whooping-cough, had pneumonia, which nearly proved fatal. Soon after, chronic inflammation appeared in the right joint. This was in 1874. A grandmother had died of phthisis, otherwise the family history was good. It seems as if, in this case, the disease appeared first in the bone (the internal malleolus), and it is thought that the joint was never affected. The abscess formed four or five months after the first onset, and the discharge lasted about one year.

The result was a success under the expectant treatment, but there was atrophy of the entire right limb, with shortening of the foot to the extent of one-half inch.

Case IX. (Dr. V. P. Gibney.)—A boy, thirteen years old, was said to have sprained his right ankle in the spring of 1872. At any rate, symptoms of pain and swelling soon developed when he walked. After a while they abated, but recurred again. Finally joint disease became established, and an abscess broke on March 1, 1874. Several sinuses remained, and the parts about were thickened and infiltrated. There was also some anchylosis and muscular spasm. Pus discharged for eight months at the anterior part of the ankle-joint. The internal malleolus was thought to be chiefly involved. On April 1, 1875, he was regarded as cured, though, on subsequent examination, September 12, 1879, there was a little pain in flexing the foot. Still, the boy was actively employed as a clerk in a hardware store, and there were no outward appearances of disease. His health was also good, and he walked without lameness.

Case X. (Dr. V. P. Gibney.)—A boy, thirteen years of age, after an attack of measles, jumped from a height upon some solid object. A few weeks later sharp pain developed in the bottom of his heel, and he became lame. His family seemed to have been remarkably free from blood disorders, though a sister died of consumption. The patient, now a man thirty-two years of age, was treated by Mr. Colles, of Dublin. An abscess formed early, was incised and constitutional measures adopted. The abscess discharged for fourteen months. A cicatrix over the os calcis would indicate that this bone was certainly affected. Ankle measurements, made December 1, 1879, were as follows: right, 10, 12¾, 10; left, 10, 12¾, 10—absolutely no shortening. The patient never had a relapse. Pott's disease supervened after some interval, but, under Mr. Colles's direction, he was kept in the recumbent position for fifteen months, making an excellent recovery.

Case XI. (Dr. V. P. Gibney.)—A little girl, four years of age, of the laboring class, was attacked with disease of the left ankle in February, 1874. She was seen a year afterward, and then the whole foot and lower fourth of the leg were swollen. Pus discharged profusely from March 18, 1875, to September 13th of the same year, when she died of exhaustive suppuration, or septicæmia. The ulceration was very extensive, and nearly all the tarsal bones were involved. The treatment was expectant during the last six months.

Case XII. (Drs. V. P. Gibney and E. Peugnet.)—A girl, twelve years old, living at Fordham, found herself unable to walk in April, 1878, both ankles being swollen and painful. The child was cachectic, after an attack of scarlatina, and did not remember to have hurt the ankles. Family history decidedly good. The symptoms at first were much like those of articular rheumatism; then suppuration set in, and incisions were made into both ankles. Finally Dr. Peugnet removed bone from both feet at a number of operations. The openings closed in four or five months. At the final examination the patient was found free from lameness. Comparative measurements were naturally useless in this case.

Case XIII. (Dr. V. P. Gibney.)—A boy, thirteen years of age, whose parents were deaf-mutes, came under treatment in April, 1874. Small portions of bone came away from the foot in the neighborhood of the os calcis, which was the bone chiefly, if not the only one, diseased. The sinuses remained opened for fully three years and probably somewhat longer. In January of 1878 a cure seemed to have been effected, and indeed remained permanent. In March, 1879, examination of the parts showed that the shape and function of the foot was retained in every respect. Three cicatrices attested the existence of sinuses at an earlier date. The treatment was expectant. The calf was slightly atrophied. This is the second case thus far recorded where the result, so far as the ankle is concerned, was perfect. Yet it is barely possible that the other tarsal bones and those of the leg were not involved.

Case XIV. (Dr. V. P. Gibney.)—A little girl, five years of age, whose mother was tuberculous, and who herself had chronic middle ear catarrh, fell sick with trouble in her left ankle-joint. Abscess followed and a purulent discharge, which lasted, with an interval of one year, for twenty months. She was finally discharged cured in August, 1877, and has not been seen since.

Case XV. (Dr. J. L. Little.)—E. W., a boy, twelve years old. The first symptoms developed in February, 1877, and the disease is described as an acute necrosis. The child was placed under ether, and as the bone was loose, it was removed with the dressing-forceps. The astragalus and cuboid were roughened. The opening closed in about two months. Dr. L. was called in to decide whether amputation should be performed or not. He observes that he has seen at least one instance in which the foot might have been saved, if the nature of the disease had been properly understood. In three similar cases Dr. Little has been able to effect a cure without resorting to amputation.

Case XVI. (Dr. V. P. Gibney.)—A little girl, seven and a half years old, was attacked, in March, 1873, with inflammation at the left ankle, the pain intermitting by day. Phthisis was said to exist in remote branches of the family, but the special cause was thought to be a sprain. Abscesses formed and discharged between the dates of January, 1873, and May, 1878. Treatment expectant. On examination, December 3, 1879, it was seen that there was a little halt in the gait, but she complained of no pain in the ankle, except after running fast. Flexion and extension at the tibio-tarsal joint perfect. No pain or tenderness on handling. The following measurements were taken. Circumference: of right calf, 8¼ inches; of left, 7¾; of right ankle, 6¼; of left, 5¾; of right heel and instep, 7¾; of left 7¾; of right instep, 5¾; of left, 6; right foot one-half inch longer than left.

Case XVII. (Dr. V. P. Gibney.)—A boy, eight years old, after a fall, found that his left foot "dragged" in walking, but there was little pain or swelling.

The father was phthisical, and the child had whooping-cough and chicken-pox at the commencement of the disease. After the abscess was formed matter was discharged for five or six months. When all active symptoms had abated, a very slight valgus remained. Measurements, September 26, 1879: right ankle, 6½, 8¼, 6⅓ inches; left, 5½, 7¾, 5⅞; right calf, 8 inches; left, 7⅓; right foot, 7 inches; left, 6½.

Case XVIII. (Dr. T. E. Satterthwaite.)—In April of 1875, a girl, six years of age, adopted from a foundling institution, complained of pain in the right ankle. Her foster parents found it swollen and red. As they exercised unusual watchfulness over the child, a traumatic cause was excluded, and they were inclined to attribute it to the manifestation of blood disease, especially as suspicious eruptions and enlarged lymphatic glands were observed in early life. When the child was first seen the malleoli were enlarged, the parts about the ankle were infiltrated, "pulpy," hot, and constantly throbbing. Under extension by Buck's apparatus, applied to the foot only, these unfavorable symptoms were relieved in two weeks, and the child was allowed to go about with Sayre's extension brace, which gave great comfort. This treatment was only suspended once, and for a few weeks. During this time, as a sequel to violent and prolonged hand-rubbing, an abscess formed and soon broke. The discharge continued one year, and then stopped permanently, leaving a small cicatrix. The child was soon able to give up the brace, and last winter danced and skated without showing any symptoms of her former trouble. The limb was not shortened, so far as measurements can be relied on, but the calf was atrophied (right, 7⅛ inches; left, 8¾). Extension at the tibio-tarsal joint was much limited and flexion was abolished, but the foot turned neither inward nor outward. The child had the appearance of excellent health. Some time during the present year she died of a sudden and unknown attack while in Toronto, Canada.

Case XIX. (Dr. T. E. Satterthwaite.)—A boy fourteen years old, living in Williamsburg, sprained his foot while going to the water-closet. Liniments were applied, and after a week's rest he thought no more about it. After an interval, pain set in and the symptoms of chronic ankle disease became established. The boy was not strong physically, and the family was phthisical. After adopting various methods of treatment, including leeching, hot and cold applications, rubbing, and strapping, an abscess formed at the end of six months and broke. General disorganization of the tarsal bones seems to have ensued, and amputation was regarded as imperative by a hospital surgeon. Consent would not be given. With the hopes of saving the foot, a conservative operation was planned and carried out December 20, 1876. After ether had been given, vertical incisions were made over each malleolus, and the astragalus, scaphoid, cuboid and os calcis, in part, were removed periosteally (Dr. Satterthwaite). As the bones were quite soft they were simply scooped out with the chisel (gouging). The foot, which previous to the operation was extended so far as to form an angle of 135° with the leg, was carried to a right angle without section of the tendo Achillis. The limb was thereby shortened about 1⅓ inch. Through the wounds an oakum rope was passed, and then a fenestrated plaster splint applied. This was not removed for six weeks. At the time of the operation the case seemed almost hopeless, as there were six sinuses leading to dead bone, one on the shaft of the tibia, two inches above the ankle-joint. The boy also had night-sweats. After the plaster-of-Paris splint was removed, Sayre's ankle-extension brace was substituted. On October 1st, the same year, he was walking without crutches, his night-sweats had stopped, and his health had improved. About January 1, 1878, the patient went to work, and continued in active employment until his death. The case was regarded as a cure, as he rarely used a stick, and walked about without lameness and made no complaint. A single sinus had not healed. It was covered with a dry scab, but on removing it there was a serous oozing. The patient died of some unknown disease in 1879, after a few days' illness.

Case XX. (Dr. Reid.) [Communicated by Mr. J. C. Phillips, student of medicine.]—M. K., a little girl, four years of age, is said to have met with an injury during her first year, though the history is obscure. There was no constitutional taint and the family history was good. According to the mother the disease originated in the "sinews." After suppuration had been established incisions were made. The suppuration lasted more than two years. The suppuration has now stopped, and the cure is complete. The child is in the country.

Case XXI. (Dr. Kenneth Reid.) [Communicated by Mr. J. C. Phillips.]—"John," a boy, two years of age, of a strumous diathesis, was attacked with chronic joint disease, which was located first in the bone. There was great swelling and infiltration extending up the lower third of the leg. An operation was performed by Drs. O'Dwyer and Reid, by which the carious bone was chiselled out, and an oakum seton, saturated in carbolized water, introduced through the joint. This was renewed from time to time. The result was a cure, and the child is now well and hearty.

Case XXII. (Dr. T. E. Satterthwaite.)—In August, 1878, the mother noticed that her little boy, twenty-two months old, walked "crooked," and that she could not button his shoe. Traumatism and blood infection could be excluded so far as the history went. Soon the child had "starting pains" in the night, but no suppuration occurred at any time. The treatment, at first, was hot water several times a day; then rest; then at the time he first came under observation a plaster-of-Paris splint was applied for five months.

There was considerable infiltration under the internal malleolus. The child passed from observation in February, 1879.

Case XXIII. (Dr. T. E. Satterthwaite.)—M. C. K., a boy, four and a half years old, whose condition indicated great poverty, was brought to the Demilt Dispensary with chronic ankle disease and a sinus leading to dead bone behind the external malleolus. A vertical incision was made over either malleolus, some bone removed (astragalus), and a rope of oakum was passed through the incisions. It was then retained *in situ* one month. The child was also given cod-liver oil, and he soon began to walk on the foot without pain, and his general condition improved, but at this time Pott's disease manifested itself, and the child was lost sight of.

Case XXIV. (Dr. E. H. Bradford, Boston, Mass.)—A boy, three and a half years of age, began to exhibit symptoms of disease in his right ankle in November, 1877. The site of the commencement of the diseased process, whether in the bone or adjacent soft parts, was not determined. Dr. B. did not see him until March, 1878, when it was found that the whole dorsum of the foot below the malleoli was infiltrated. The treatment adopted was, in brief, the application of a stiff bandage; then rest for several months; later, incision and gouging, and finally, removal, by dissection, of the astragalus and scaphoid. In the winter preceding Dr. B.'s first examination (1877), an opening had formed in the soft parts leading to the carious bone. After the operation just described the discharge lasted six months, when the sinus closed permanently. Caries had involved the end of the tibia, slightly roughening it. At the final examination in June, 1879, the foot was found shortened three-fourths of an inch; the limb was of normal length. Calf, ankle, and instep were not measured, but there was no noticeable change as compared with the other limb. Flexion and extension of the joint, each 15°. So far as talipes was concerned, none resulted, and there was no pain or tenderness; in fact, a permanent cure seemed to have been effected.

The expectant method was tried a year without benefit; gouging also seemed to produce no favorable result, and for three months the symptoms were worse rather than better. The final operation is described as follows: "A straight incision was made on the dorsum of the foot, and a second curved one on the outside of the foot, below the malleolus, down to the astragalus, which was carious throughout (a portion has, as before stated, been removed by gouging); this was removed by dissection, and afterward the scaphoid, which was found to be partially carious; the lower end of the tibia at its anterior edge was bare of cartilage to a slight extent; this was simply curetted. The operation and subsequent adjustment of the parts were done antiseptically, but as the dressings became foul in a week the open method was subsequently employed. After this operation the boy's condition, which previously had been poor, improved and continued excellent.

CASE XXV. (Dr. Cammann, reporter.)—A boy, seventeen years of age, was admitted into hospital, New York city, with disease in the right ankle. The first symptoms dated from October 13, 1878. No injury was thought to have produced it, and the bone seemed to be first affected. On examination by Dr. C., January 1, 1879, the following story was elicited from the patient: On October 26, 1878, the whole foot had become swollen, red, and hot, chiefly on the outer aspect. A few days after the symptoms became marked, incisions were made, but only blood was liberated; a few days later again other incisions were made, and a large quantity of pus was evacuated; poultices were then applied. Still later, other incisions were made. Amputation through the epiphyses of tibia and fibula was performed three weeks and four days after the onset of the symptoms. The extent of disease, as determined by subsequent examination, was very great, involving the following bones: Articular surfaces of tibia and fibula, astragalus, os calcis, scaphoid, cuboid, internal, middle, and external cuneiforms; articular surfaces between second and third and fourth and fifth metatarsal bones. The shafts of metatarsal bones and phalanges were not involved. At last accounts the wound was not entirely healed, two small ulcers still existing in the stump, and there was some tenderness.

CASE XXVI. (Dr. Cammann, reporter.)—A girl, aged fourteen, was admitted into hospital in the middle of February, 1879, with disease of the right ankle. On May 9, 1879, the foot is described as being swollen and painful. Poultices were then applied and maintained for about two weeks, when the cuboid, external and middle cuneiform bones were removed. As the case did not progress favorably, amputation was performed October 14, 1879. It was then found that the tarsus and metatarsus had become involved, the phalanges being the only bones of the foot not affected. The cure was permanent.

HYPOSPADIAS.

CURE BY A SINGLE OPERATION.

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J. W——, aged thirty-four years, came under my observation June 10, 1876, with the following history: Some two years previous he had a suspicious sexual contact, which was soon followed by a purulent discharge from the meatus urinarius. Within a few days, evidences of chancroidal ulceration presented at the urethral orifice. The orifice was so small that it not only prevented any local applications to the ulceration within the urethra, but interfered seriously with micturition. Extension of the ulcerative action ensued. This soon assumed a phagedenic character, and carried away the corpus spongiosum and integument of the penis from a point just at the base of the glans nearly an inch backward. The surface of ulceration finally healing, a fistulous opening about one-half an inch in extent was left, through which all the urine was passed. The condition of the penis when presenting, June 10, 1876, is shown at Fig. 1, made from a sketch taken at that time. The surface adjacent to the fistulous opening was covered with mucous membrane fully three-fourths of an inch in breadth posteriorly, narrowing to about one-third of an inch at the base of the glans.

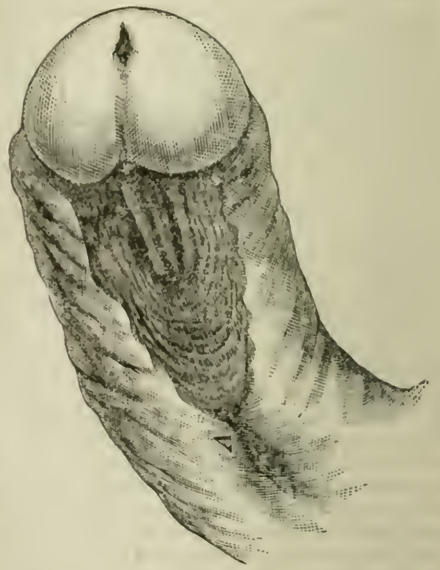

FIG. 1.

Circumference of the penis 3¼ inches; meatus urinarius, 16-f. Urethra, as measured by the urethrometer, full size from bulb to the posterior border of the fistula (viz., 32-f.). At this point a hardened ring of tissue presented, which, after a little steady pressure, allowed the passage of 30-f. Meatus divided to 30-f.

Seven days after (June 17th), the wound of meatus having healed, patient was placed under the influence of ether. Present and assisting, my associate, Dr. L. B. Bangs, and Dr. M. J. De Rosset, of New York.

The inferior border of the glans was painted thickly with white paint up to the line marked 1, 2, in diagram, Fig. 2. The loose integument of the penis was then drawn forward until the fistulous opening was completely covered, and the mucous surface surrounding the fistula was brought into easy apposition with the line 1, 2, at base of glans. The tissues were then allowed to resume their former position when the paint line at 1, 2, was found to have been repeated at 3, 4. This afforded an exact guide as to the amount of tissue required to be brought forward to reach easily to the line 1, 2, at the base of the glans. Integument and mucous membrane was then carefully dissected off, for the space indicated by the paint line, leaving only the flaps of mucous membrane at 5, of a size and shape sufficient, and suitable to cover the fistulous opening, and to serve as the new floor of the urethra at that point. A short straight silver tube, No. 30, was then introduced through the meatus and well into the urethra beyond the fistula. Two deep sutures were then introduced at the points in the diagrams marked +. The freshly dissected surface was then brought forward into apposition with the line 1, 2, at the base of the glans, and the two deep sutures carried through the integument at the point overlying their insertion in the tissues of the corpus spongiosum, thus securing the complete coaptation of the longitudinal portion of the flap. The posterior and transverse portion was then firmly attached to the tissue at the base of the glans 1, 2, by deep interrupted sutures of fine silk thread about one-sixth of an inch apart.

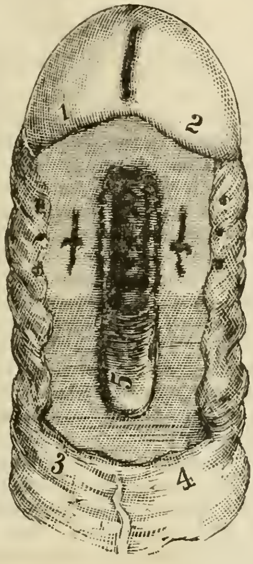

Fig. 2.

A small, soft (Mercier) catheter was then introduced through the tube and into the bladder and retained. As there was some tendency to paraphymosis, I divided the constricting preputial integument freely. Light pasteboard splints covered with borated cotton were then applied to the superior and inferior surface of the penis and retained by a bandage. The cold-water coil was then applied, and a suppository of morph., one-fourth of a grain, was then administered.

Tube and catheter retained without trouble. No urine escaped except through the catheter, and but slight swelling of the parts, up to the night of the 22d, three days subsequent to the operation. Erections then began to be troublesome. Neither the cold-water coil, application of ice, nor bromide of pot. in thirty-grain doses, proved sufficient to prevent them entirely. The preputial swelling thus induced caused partial paraphymosis in spite of the previous measures taken to prevent this accident. The œdematous tissue was tapped with a hypodermic syringe, and the tension much relieved.

Stitches taken out on the morning of the fifth day. Swelling had subsided to some extent, and wound was found in fair condition. Parts were kept clean with carbolic lotion, and continued apposition and support secured by the pasteboard splints. Tube and catheter removed; no trouble from either at any time. Urine now to be drawn off as required, patient himself passing the catheter. Matters went on in this way for the following six days, making eleven days in all since the operation. No urine had passed through the wound. Examination showed that only partial adhesion by first intention had taken place. The parts were kept in perfect apposition by the splints. The swelling was almost entirely gone. Patient walked about now without discomfort. Tube 30-f. was introduced into the urethra and well beyond the point of operation daily. Purulent urethral discharge quite profuse, but the parts were painless. Patient allowed to go home to a distant State, with instructions to continue use of catheter and the support of the splints for at least two weeks longer, before passing his urine *per viam naturalem*, and to keep up the support of the splints for a week or two longer still. The patient was not seen or heard from until the 18th of the following December, six months from the date of operation, when he reported in person, having carried out all directions with fidelity, with results apparently satisfactory. The above sketch (Fig. 3) represents the appearance of the restored penis.

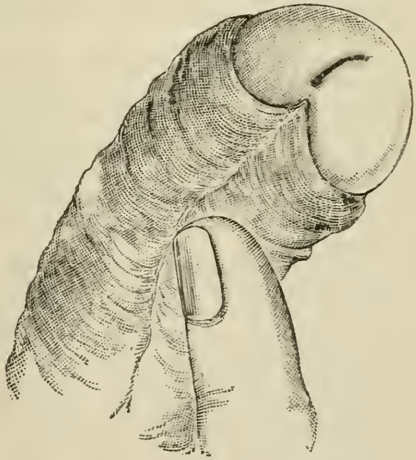

Fig. 3.

Union at every point had been complete. There was a slight muco-purulent urethral discharge. Patient very desirous of marrying and anxious to get rid of the discharge. Injections and internal remedies had been used for this purpose for some months without effect.

Examination of the urethra by means of bulbous sound revealed a strictured point just behind the site of the orifice of the former hypospadias, one and a half inch from the meatus urinarius.

This stricture was found to be very resilient, distinctly defined by 26-f. bulb, but permitting the passage of 30-f. sound without much pressure, and was then divided with the dilating urethrotome up to 34-f. Subsequently to this operation, No. 32-f. bulbous sound was passed through the entire pendulous urethra with ease. No subsequent trouble from bleeding or other causes. A solid steel sound was introduced beyond the site of operation every second day, until the eleventh day after the division of the stricture. At this time, the wound in the urethra having healed and the urethral discharge having entirely disappeared, the patient left for his home, apparently well in every respect. June 20th, 1879, over three years subsequent to the operation on the hypospadias, I learned that he had married, and that the cure, both of the stricture and of the hypospadias, as far as he was able to judge, had been complete and permanent.

108 West Thirty-fourth Street, July 7, 1880.

A CASE OF ABSCESS OF THE SPLEEN.

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Frank Taylor, a native of Savannah, Georgia ; aged 32 years ; married. Has been employed for several years on the tug-boats running on the Savannah River. Residing during that time on Hutchinson's Island, opposite the city. The surface of that island consists of reclaimed rice fields, and up to 1877 was overflowed at every tide. The island is one upon which no white person could live with impunity before it was drained, and very few choose to risk it now.

From September 12 to September 19, 1878, I treated the patient for remittent fever and diarrhœa. From April 11 to April 16, 1879, he was again under treatment for eczema cruris. July 2, 1879, I was called to see him, and found him suffering from remittent fever and splenitis. Acute splenitis developed, and on August 4, 1879, his condition not having improved, he was admitted to St. Joseph's Infirmary Hospital.

On admission his temperature was 104°, pulse 120 ; the fever remitting in the evening. In a few days the acute febrile condition subsided, leaving behind pain over the spleen. Percussion developed immense enlargement of the spleen to the median line in front, downward almost to pelvis. General debility, with hectic flushes every day. The general prostration gradually increased until about September 10, when I detected fluctuation. On the 14th day of September, 1879, I introduced an aspirator needle, and drew away 1,000 c.c. of pus, after which the tumor subsided to half its former size. The aspiration was repeated on the 21st and 29th with a like result.

On the 10th of October, after inducing anæsthesia with chloroform, I made an incision just above the crest of the ilium, where the pus seemed to point, and evacuated 250 c.c of pus. The abscess continued to discharge until his death, November 14, 1879. At the post-mortem examination (which was only partial on account of decided opposition of his friends) the abdomen was opened, and the viscera were found healthy, with the exception of the spleen, which organ had been entirely absorbed, except the capsule which formed the sac of the abscess and enclosed the pus.

A fistulous opening existed, leading downward and outward, between the quadratus lumborum and transversalis muscles, having its exit about half way between the crest of the ilium and floating ribs.

There was a capricious appetite throughout the disease, with a constant tendency to find fault both as to quantity and quality of the food furnished.

Reports of Hospitals.

NEW YORK HOSPITAL, N. Y.

NINE CASES OF SUNSTROKE.

Service of Dr. C. E. Hackley.

(Reported by F. M. Townsend, M.D., House Physician.)

It is well known that exposure to the direct rays of the sun is not always necessary to produce sunstroke, for cases arise from merely overheating the body in close, badly ventilated apartments, in prisons, barracks, etc., and occur sometimes by night as well as by day. Those arising from exposure to either solar or artificial heat, as a rule, show the following train of symptoms : coma, with contracted pupils and suffused conjunctivæ ; a hot, dry skin ; a rapid but full pulse, and a very high temperature. Not infrequently tonico-clonic convulsions are present.

There is, however, another variety, better termed heat-prostration, which is shown by syncope, or even collapse, a cold, damp skin, a rapid, thready pulse, cold extremities, and only a slight elevation of temperature.

In many cases premonitory symptoms show themselves, such as a dull, aching headache, or a feeling of fulness and distention in the head, dizziness, and extreme weakness. The following cases were of the former variety ; one case only of the latter kind came under observation, and unfortunately no notes were taken of it.

In the treatment, both the cold bath and the wet pack were used. The bath was begun with water at 75 F., and slowly reduced to 65° F. In using the wet pack the patient was wrapped in a wet sheet at the temperature of 65° F., and placed on a fever-cot, the sheet being sponged with water every five to ten minutes, according to the amount of fever.

It was noticed that a tendency to failure of the heart and œdema of the lungs occurred in those cases where a rapid fall of temperature occurred *during* the bath ; that convulsions occurred more frequently *after* the bath ; and that a second and rapid rise of temperature in these cases was the rule.

Case I.—May 27th, William M., æt. 45, Ireland, hostler. This patient, while working in the sun, became overheated and drank freely of ice-water. At 10 a.m. he staggered and fell, and was brought to the hospital a few minutes later in an unconscious state, breathing stertorously with a loud mucous rattling in the trachea. Both conjunctivæ were injected, the pupils finely contracted, and the skin intensely hot ; pulse, 158, full and strong ; respiration, 30 ; temperature, 110°.*

The patient was put in a bath, and an ice-cap placed on the head. Two hours later the thermometer registered 103.5°, and the patient was removed to the fever-cot, wrapped in a wet sheet, and given ℥ ij. brandy per rectum. The patient, still unconscious, moaning loudly and grinding the teeth, soon began to suffer severe clonic spasms of both arms. The temperature continued to fall, and at 12.40 P.M. was 102°. The pack was then discontinued and stimulants given.

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* All temperatures were taken in the rectum by one of the house staff, and two, and sometimes three, thermometers were used in the same case.

At 4 P.M., the temperature having risen to 104°, the pack was reapplied for a short time, resulting in a fall to 101° within thirty minutes, and the patient seemed much better. This was temporary, however, for the temperature rose again; the heart, previously strong, began to fail, and œdema of both lungs occurred. Finally, at 7 P.M., he died; temperature, 104.2°.

CASE II.—This patient, during the first few days of her illness, was under observation at Chambers Street Hospital. The previous history and treatment were furnished me through the kindness of the house surgeon, Dr. Moore.

May 27th, Mary McQ., æt. 35, Ireland, bookbinder. This patient was poorly nourished, and had suffered more or less for years with subacute rheumatism. She worked in a close apartment in a bookbinding establishment, and for two days previous to her present illness had complained of severe headache, nausea, and weakness. To-day, while working, she was seized with precordial distress and faintness, and was obliged to quit work. One-half an hour later, after vomiting freely, she fell unconscious, and, when removed to the hospital at 4.10 P.M., was fully comatose, having automatic movements of the left arm and grinding of the teeth. Both conjunctivæ were suffused; the pupils finely contracted and insensitive to light; pulse, 146; respiration, 38; temperature, 109°. The breathing was labored and noisy, and each inspiration was accompanied by a sinking in of the intercostal and supraclavicular spaces.

The patient was placed on a cot, rubbed with ice, and had an ice-bag applied along the spine. Thirty minutes later the wet pack was used, and two cold-water injections were given, which thoroughly emptied the bowels of a large quantity of foul fæcal material. The temperature steadily fell, reaching 104° F. at 10 P.M. The pack was discontinued, and the patient then sprinkled with water by means of an ordinary watering-pot, and given stimulants. The automatic movements had ceased, but clonic spasms of unusual severity affected the whole left side and continued during the night.

The next morning the general condition was much better, though coma still remained. The spasms had ceased, the breathing had become less labored, the pulse stronger, and the thermometer registered only 101°.

Until the evening of May 30th, just three days after admission to the hospital, this patient remained in an unconscious state. She had, during this period, continual fever, not above 101–2°, and great restlessness, and was nourished almost entirely by nutritive enemata.

On regaining consciousness her only complaint was extreme weakness, and almost one week elapsed before she was allowed to sit up. The only other circumstance worthy of note occurred on June 5th, when a desquamation of the cuticle over the entire body began, resembling greatly the desquamation of scarlet fever. She has now entirely recovered and resumed work.

CASE III.—June 18th, John S., æt. 40, Ireland, laborer. To-day, while exposed to the sun, complained of feeling badly, and at 4 P.M. fell unconscious.

On admission the patient was comatose, suffering convulsive twitchings of the left side of the face and body. Both pupils were contracted and the conjunctivæ injected; pulse, 134; respiration, 24; temperature, 106.8°. The wet pack was applied for three hours, and the temperature fell to 100.7°. He was then well rubbed with dry towels, put in bed, and given ℥ ij. brandy per rectum. At 7.30 P.M. temperature 99.8°. As the temperature fell the spasms became less frequent, and finally disappeared. At 9 P.M. the patient was in a condition of stupor, and on attempting to rouse him, a severe tonic spasm occurred lasting three minutes, and while it lasted the limbs would stay in any position they were placed; the breathing became shallow, and the pulse lost at the wrist. Hyperæsthesia of the whole body remained for an hour after this convulsion, a touch anywhere, but especially in the folds of the neck, causing the patient to cower and shrink away with fright, while an unexpected tap threw him at once into a spasm.

At 10 P.M., after a general tremor which lasted ten minutes, consciousness returned, and the patient spoke a few words. Temperature now 102.5°, but fell to 100° in the morning. Improvement progressed favorably, and, excepting weakness, there was no complaint.

On June 25th he was discharged cured.

CASE IV.—June 25th, Michael C., æt. 56, Ireland, laborer. This patient, a strong, well-built man, while exposed to the sun, became weak suddenly and fell unconscious at 2.50 P.M. He was comatose and breathing rapidly; the face and whole body were cyanosed, the pupils contracted, and the conjunctivæ injected; pulse, 158; respiration, 40; temperature, 110° F. At 3.05 P.M. he was put in a bath, and within *fifty* minutes his temperature fell to 102.4°; the pulse ran up to 180 per minute, and was very feeble, and the extremities became cold. He was removed immediately, given brandy ʒ j. and digitaline $\frac{1}{24}$ grain hypodermically, wrapped in blankets, and put in bed. The pulse grew better almost immediately, and the cyanosis partly disappeared; but by 4.15 P.M. the temperature had gone down to 98.9°, and he became very restless. Slight twitchings of the facial muscles and grinding of the teeth were now noticed, and the patient groaned loudly. A short time afterward a general convulsion followed, during which the head was drawn forcibly backward, the jaws were clenched, and the extremities rigidly extended. This tonic state lasted about forty seconds, and, relaxing, gave place to clonic spasms so violent that the patient could scarcely be kept in bed. These convulsions followed each other in rapid succession, occurring every eight to ten minutes. They were effectually controlled by ether, and for the next two hours the patient was kept anæsthetized; for every attempt to remove the ether was followed by a renewal of the convulsions. At 6.30 P.M., pulse, 144; respiration, 30; temperature, 105.8°. The fever having risen so rapidly, the pack was applied and kept up until 10 P.M.; the thermometer then registered 101.8°. The convulsions had become less severe, the general condition improved, and the patient partly regained consciousness, answering questions rationally. This improvement, however, was only temporary, for at 1 A.M. of the 26th he became fully comatose again; the temperature rose to 103°, and he suffered the same tonico-clonic convulsions as before, making the giving of ether necessary until 6 A.M.

In the early part of the forenoon the convulsions ceased entirely, consciousness fully returned, and the temperature fell to 101.7°, and the pulse to eighty good pulsations per minute. The case now seemed a very hopeful one, but in the afternoon he again became comatose, and the temperature rose to 105° F. at 5 P.M.; the convulsions did not return. The patient was wrapped in wet sheets at 75° F., and left so all night. Finally, at 4 A.M. of the 27th, the temperature being reduced, he became conscious, and from that time he began to convalesce. During the next ten days he had to be fed, being unable to use his arms; and three weeks elapsed before he was allowed to sit up. After the acute stage of his illness he lost flesh very rapidly, and suffered severe headache and dizziness for more than three weeks.

On July 28th he tried to walk for the first time, but was obliged to confess himself still weak. At present he is gaining flesh and strength rapidly, and in a few weeks will be able to attend to work.

CASE V.—June 27th, William L., æt. 42, Germany, laborer. This patient had been drinking heavily all day, and at 5 P.M. was found in his room in an unconscious state. On admission he was comatose, had loud, stertorous breathing, contracted pupils, and hot skin; pulse, 144; respiration, 38; temperature, 108.6°. On putting the patient in the bath (temperature 75° F.), respiration suddenly ceased. He was removed immediately, and artificial breathing was resorted to, and in a few minutes he breathed regularly. In thirty minutes the temperature had fallen to 105°, but at 6.40 P.M., while in the bath, the heart failed, and in spite of stimulants, artificial respiration, etc., he died in a few minutes.

CASE VI.—June 28th, Peter K., æt. 22, laborer. This patient was brought to the hospital at 8.05 P.M. in a dying condition. He was unconscious, breathing stertorously, with a loud rattling in the trachea. The face and body were greatly cyanosed; profuse frothy mucus issued from the nose and mouth; the radial pulse was lost, the extremities cold, and the thermometer registered 108°. Examination of the chest revealed intense pulmonary congestion and œdema. The patient being unable to swallow, brandy and digitaline ($\frac{1}{48}$ grain doses) were administered hypodermically, and large cold-water injections were used instead of the bath. The heart did not respond, but the temperature fell to 105.8° at 8.50 P.M. Ten minutes later a clonic convulsion occurred, opisthotonos became marked, the contents of the bowels and stomach were ejected, and the patient died.

CASE VII.—June 30th, James G., æt. 40, Ireland, waiter; was obliged to remain nearly all day in a kitchen where the temperature ranged between 100° and 101°, and for two or three days previous to this attack he suffered headache, dizziness, and a sense of prostration. At 8.30 P.M., while working, he fell unconscious, and his temperature, taken immediately, showed 107° F. He was wrapped in a wet sheet, after being rubbed with ice for a few minutes, placed in the ambulance, and brought here at 8.50 P.M. He was still comatose, had contracted pupils and stertorous breathing. He was left wrapped up in the sheet and sponged frequently with cold water. At 9.30 P.M., pulse, 144; respiration, 30; temperature, 102.4°. He was then removed from the pack and placed in bed, and almost immediately began to suffer convulsive twitchings of the upper extremities. These rapidly grew severe and involved the whole body, and were accompanied by loud moaning and grinding of the teeth. Ether promptly checked them. At 10 P.M., pulse, 140; temperature, 98.4°. The convulsions now subsided, and the ether was stopped. At 10.35 P.M. a general tonic convulsion, lasting twenty seconds, occurred, and was followed by loud groaning and intense restlessness, the patient tossing violently from side to side. Shortly after, however, he grew partly conscious and spoke a few words. At 11.35 P.M., the temperature having risen to 104°, the pack was reapplied, and, after a slight rise of 0.6° at 12.30 A.M., the temperature steadily fell to 101.2° at 2.30 A.M., July 1st, and the patient was given potass. bromide 45 grains, which soon quieted the restlessness and induced sleep. He awoke a few hours later complaining of much weakness, but from this time went on to convalescence without a bad symptom, and on July 3d he was discharged cured.

CASE VIII.—July 12th, Edward J., æt. 30, single, porter. This patient, after working hard all the morning in the sun, walked a short distance complaining of dizziness, confusion of ideas, and weakness, and then fell unconscious. He was removed to the hospital at 2.30 P.M., comatose, and suffering clonic spasms of the whole body. The face was pale, the eyes suffused, and the pupils contracted; pulse, 140; respiration, 38; temperature, 108.2°.

He was put in a bath and kept there nearly two hours, when the temperature showed 101°. The patient was then rubbed well and put to bed, and within one-half hour the spasms ceased, and he became fully conscious. He recovered rapidly, and, excepting a rise of fever to 101° on the second day, nothing happened until July 16th, when a desquamation of the cuticle appeared over the abdomen and chest, resembling that seen in Case II. July 20th he was discharged cured.

CASE IX.—July 14th, Cornelius R., æt. 45, carpenter; was brought by ambulance, at 5 P.M., in an unconscious state. He was seen to fall at the corner of Pearl and Dover Streets about 3 P.M., but beyond this there was no previous history. On admission he was found comatose and breathing stertorously. The skin was intensely hot, and the pulse rapid; respiration, 35; temperature, 109°.

He was put in the bath with an ice-cap to the head, and given brandy, ʒ j., hypodermically, to stimulate the heart. While in the bath the patient showed signs of œdema of the lungs, and he was removed, placed on a bed, and given stimulants freely. The temperature, which had fallen to 108°, rose to 110.2°, and the pack was immediately applied. The œdema lessened, and the pulse improved after giving digitaline, $\frac{1}{24}$ grain, hypodermically. At 6 P.M. temperature had fallen to 102.2°, and the pack was stopped.

At 7 P.M. patient was still comatose, breathing loudly, and had tonic rigidity of both arms and the muscles of the neck, the latter drawing the head far back. The temperature fell to 98.4° at 7.30 P.M., and the pulse became lost and the patient sank into a condition of collapse. Hot bottles were applied to the body, and stimulants freely given, but at 9.15 P.M. he died, the temperature being 103.4°.

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NASHVILLE MEDICAL COLLEGE.—Dr. W. K. Bowling has been made Adjunct Professor of the Theory and Practice of Medicine in this college. Prof. Thos. O. Summers, late of Vanderbilt and Nashville Universities, will occupy the Chair of Physiology. Dr. J. B. Lindsley has taken the Chair of State Prevention Medicine.

Progress of Medical Science.

Chloral Hydrate in Acute Gastro-Enteritis of Children.—Prof. Kjellberg asserts that there is no medicine equal to chloral for checking the vomiting in the acute gastro enteritis of children. Being rapidly absorbed, it calms the patient, stops the vomiting, and often checks the diarrhœa. It is best given by enema, so as not to risk its rejection by the irritable stomach, and it should be given soon after a passage. The dose for a child of from five to six months is from 3½ to 4½ grains, while to a child of from twelve to fifteen months, from 7½ to 9 grains may be given. The bulk of the injection should not exceed a dessertspoonful. The enema may be repeated two or three times daily, and the dose may be increased, if it is found necessary. To increase the effect of the chloral, Prof. Kjellberg generally adds to each enema a drop of tinc. opii, and if stimulants be indicated, five to fifteen drops of liq. Hoffman. At the same time the other ordinary remedies are not neglected.—*The American Practitioner*, June, 1880.

The Surgical Treatment of Epistaxis.—Dr. Thurston writes that he has found the injection of cold water by means of a Higginson's syringe very serviceable in the treatment of this symptom. The water is injected into the nostril not bleeding, and allowed to flow out of the other nostril. This drives out the clots and often arrests the bleeding at once; if it should not, he injects a weak solution of perchloride of iron, which is generally successful. A jet of water thrown up in the same way is most useful in dislodging foreign bodies from the nostril.—*British Medical Journal*, June 5, 1880.

Monthly Sanguineous Discharge in an Infant.—Mr. Harle, of Enfield, reports this case: The patient was the youngest of three children, girls. At the age of five months the mother observed a bloody discharge, which continued about three days, and returned every month till the patient was nine months old. At the age of ten months she was weaned, and the discharge did not return that month. It reappeared at the eleventh month, and then periodically until she was fourteen months old, when she died of diarrhœa. At the autopsy, there were marks of blood, somewhat dry, on the pudendum, labia, and peritoneum, corroborating the mother's statement that the child had recently had "the monthly discharge." The pudendum was large, and covered with fine hair. The vagina was healthy. The uterus was large; when removed, it measured an inch and five-eighths in length externally. The os was very patent; the lips congested. There was nothing abnormal in the cavity. The vessels of the broad ligament were injected. The left ovary was twice as large as the right; it was dilated, forming a cyst of the size of a horse-bean. The right ovary contained a number of small cysts, each about the size of a pin's head.—*The British Medical Journal*, June 5.

Paralysis Spinalis Spastica.—At a clinical lecture held at the Glasgow Royal Infirmary, December 8, 1879, Dr. M. Charteris presented a typical case of *paralysis spinalis spastica* (Erb-Charcot), being the first true case which has been reported from the west of Scotland. Patient, female, æt. 36, the mother of ten children, had been enjoying good health until ten months previously, when she became pregnant with her tenth child. Her confinement was noticeable for the entire absence of a lochial discharge. She kept her bed for three weeks, and on rising found that she was unable to walk without crutches. Day by day she noticed that she had greater difficulty in putting her heel to the ground, and after a time she could only place her toes there. As she lay in bed, her thighs were flexed slightly upon the pelvis and the legs forcibly upon the thighs. The adductor muscles of the thigh were strongly contracted—so much so that the knees were locked forcibly together and could not be separated; the thighs and legs could not be extended to any great degree. Sensibility was not affected, and the muscles of the leg and thigh, though flabby, were not atrophied. The entire condition of the patient faithfully illustrated Erb's clinical picture of the disease known as *paralysis spinalis spastica*. The pathology of the disease involves the lateral columns of the spinal cord. According to Charcot and Erb, it consists in a chronic inflammatory process in the posterior divisions of the lateral columns, but as yet this theory has not been verified by a post-mortem. The treatment in this case produced very little change in the patient's condition. Every remedy which might be considered useful, constant current, etc., had been tried, but without effect. Under chloroform the limbs could not be extended any farther than without it. The patient was therefore discharged uncured.

Less than forty cases of this disease have been reported, and these with very unsatisfactory results as to treatment, but one case of recovery having been reported.

Hæmoglobinuria caused by the Inhalation of Arseniuretted Hydrogen.—Dr. Eitner, of Breslau, reports several cases of the above. A professor of physics, a tutor, and two students were suddenly attacked, after the experimental inhalation of what was supposed to be pure hydrogen gas. The professor gave the following history: On the first of November, in the afternoon, he suddenly experienced a general malaise, which forced him to take to his bed. He passed the night wretchedly, was "feverish," restless, harassed by one continually recurring dream, and experienced alternately hot and cold sensations. Toward morning he began to perspire freely. On looking at his urine, which had been copiously voided during the night, he was startled by its bloody appearance. In addition he now complained of a profound weakness, especially about the knees, general prostration, and the loss of appetite. He had been previously quite healthy, of a robust constitution, and was considered quite a pedestrian. Examination elicited the absence of fever, a feeble but regular pulse, coated tongue, icteric color about the forehead and breast, no pain, and bloody urine. The latter showed no deposit, and was free from albumen. On the following day, after a good night, the patient was again up and about, his urine being clear, of normal color, and still free from albumen. His appetite had also improved. On the next day, all the previous symptoms returned; the urine was then found to contain much albumen, was reddish brown, and did not show any red blood-globules. Hæmoglobinuria was therefore diagnosticated. The patient soon began to improve and finally completely recovered.

The other patients had similar symptoms, but with them the attacks were less severe. That the hæmoglobinuria resulted from intoxication with arseniuretted hydrogen was clearly shown by a subsequent chemical examination of the materials employed in the generation of the hydrogen gas used for inhalation. The sulphuric acid was found to be mixed with an especially large proportion of arsenic, and the zinc also contained this noxious impurity.—*Berlin. klin. Woch.*, *May* 3, 1880.

THE TREATMENT OF EPILEPSY.—A valuable paper on this subject, by M. Hambursin, of Namur, is published in the *Bulletin de l'Académie Royale de Méd. de Belgique*, No. 2, 1880. As epilepsy is most frequently developed in anæmic persons, the author first insists on the necessity of a strengthening, nitrogenized diet, with wine in tonic doses, and some form of iron. Exercise in the open air, and the avoidance of all things that might excite the passions, are also recommended. If the disease be supposed to be due to the pressure of a tumor on a nerve, to alcoholism, lead-poisoning, or syphilis, to uterine maladies, or any other curable affection, the first indication of course is, if possible, to remove this cause. Blisters and local bloodletting were at one time much in vogue, but are permissible only when the epilepsy is symptomatic of an encephalitis, or when an idiopathic epilepsy is accidentally complicated with symptoms of cerebral inflammation. The treatment of the aura is now generally abandoned, because it has been demonstrated that the aura, in the rare cases in which it exists, is almost always only a peripheral symptom of central disease. Still, good results have occasionally been obtained from the application of blisters, ligatures, etc., to the point whence the aura starts. Many remedies have been employed with a view to lessen the irritability of the nervous system, the most important of these being the oxide and the salts of zinc, nitrate of silver, and especially bromide of potassium. With the preparations of zinc, the author has never had any success at all, and he has not used nitrate of silver on account of the discoloration of the skin it produces. Bromide of potassium is given in doses of from half a drachm to three drachms. Voisin recommends that the doses be sufficient to abolish the reflex nausea caused by tickling the pharynx, and states that he has cured half his cases of recent epilepsy since adopting this plan of administration. On the other hand, M. Hambursin states that he has used the large doses of the bromide for fifteen years, and that he has never known them to produce a cure, although many of his cases were greatly improved. Unfortunately, the bromide, when given in large doses, is liable to cause gastric pains and bromism, and when used for a long time, even in connection with iron, it leads to the development of a decided anæmia. In view of these facts, M. Hambursin thinks that it is wrong to persist with the administration of the bromide when it does not rapidly produce a marked amelioration. Another indication for treatment is to prevent the vascular spasm which causes the encephalic anæmia of the initial stage of the attack. For this purpose the galvanic current has been employed with the view of acting directly on the cervical sympathetic. Some success has followed its use, but as a rule it has proved unsuccessful, probably because of the transient nature of its action on the nerves. The same effect has been sought for with the aid of drugs that act on the vaso-motor nerves, such as valerian, belladonna, curare, and cocculus indicus. Of all these, M. Hambursin has found the last the most efficacious, but he has found it necessary to give it in much larger doses than are recommended by M. Planat, who first employed it in the treatment of epilepsy. He employs the tincture, and begins with a dose of ten drops morning and evening, increasing by two drops daily until he has reached the dose of sixty drops; then he increases by ten drops a month, until the dose is a hundred drops. If the attacks have ceased by this time, he continues with this dose; if not, he does not hesitate to increase the dose to a hundred and fifty drops, and would not hesitate to give still larger doses, if necessary. The use of the remedy should not be interrupted, for fear of impairing its effects. The cocculus indicus produces symptoms of cerebral congestion; hence, it is proper to conclude that, when administered in the above manner, it keeps the cephalic vessels in a state of permanent relaxation, and thus prevents the vascular spasm which produces the sudden anæmia of the brain, the fundamental condition of the initial stage of the epileptic attack. M. Hambursin concludes his paper with reports of six cases of long-standing and severe epilepsy, all of which had been treated without success with large doses of bromide of potassium, and in all of which the attacks have ceased entirely under the cocculus indicus treatment.

Dr. Mikeleff, of St. Petersburg, states (*Gazette des hôpitaux*, April 6th) that until recently epilepsy was regarded as incurable in Russia, but that of late years it had been treated with great success with Henry Mure's syrup of the bromide, which seems to have been the only chemically pure preparation of the salt imported into that country. He asserts that, in the course of a large practice as a specialist, he can count positively two hundred definitive cures, as well as a large number of cases of improvement in which the attacks were suspended for a year or eighteen months, all of which cases were treated by Mure's syrup.

APPARATUS FOR THE REDUCTION OF UTERINE DISPLACEMENTS.—Dr. Verrier, of Paris, describes a new apparatus designed to secure instantaneous reduction of displacements of the uterus, which he has employed with success in a number of cases. It consists of a seat with stirrups, and a movable back which can be let down until its upper border touches the floor, so as to form any desired angle with the seat. The back is supported by two strong wire springs, which are attached above to a bar of wood secured to the ceiling of the room. To the centre of this bar is also secured a lever of the first order, and by means of a cord attached to its long arm the patient can let herself down and raise herself up without the slightest jarring of the body. It is in this employment of the lever that the chief advantage of the apparatus lies. It is a well-known fact that, in the reduction of malpositions of the uterus, great assistance is derived from raising the patient's hips sufficiently to take the weight of the intestines and viscera off the uterus, but this advantage is often lost by the jarring of the body in the effort to regain the natural position. This jarring is itself often sufficient to cause an immediate return of the displacement. Dr. Verrier claims that the use of the lever in his apparatus entirely prevents this jarring, and that, when the body is raised quietly and gently with its help, the intestines fall into their normal position in front of and behind the replaced uterus, and aid in retaining it in position. The further treatment after replacement consists in the use of tonics and local and general stimulants. The apparatus is, of course, only intended for use in cases uncomplicated by adhesions or peritoneal thickening from previous inflammation.—*Gazette obstétricale*, June 5, 1880.

New Treatment for Relaxation of the Membrana Tympani.—Dr. McKeown, of Belfast, recommends the application of contractile collodion to the membrana tympani in cases of relaxation of that membrane, with a view to restore tension. He states that the collodion contracts the membrane to a greater or less extent while it remains adherent, and also exerts a permanently beneficial influence on the relaxation. He reports the following case as an example: The patient, a woman, æt. 41, had been under his care from time to time for three years for catarrh of the drum and its results, and had been treated by the usual methods. With the left ear she heard the voice (moderate tone) at a distance of three feet, but the hearing varied much. The noises in the ears were of the most distressing kind. Between the upper part of the handle of the malleus and the posterior wall of the meatus, there were a number of depressions, which became bulgings on inflation of the drum by Valsalva's method. Collodion was freely applied to the drum, and the hearing at once improved and continued steady. She could hear the voice (moderate tone) at a distance of eighteen feet, and the noises ceased. The confusion of voices and the subjectively unnatural character of her own voice, which had previously annoyed her greatly, disappeared. The depressed part became quite flat. About three months later the layer of collodion seemed loose, but it was only after some difficulty that it was removed by syringing. The hearing remained good, and the depression had disappeared, probably owing to the long-continued bracing up; but, as the membrane still seemed too lax, another coat of collodion was applied two days afterward. At present the hearing is stationary, the relaxed part has its normal tension, there is not the slightest depression at any part, and the membrane has become, perhaps, more than usually transparent. The patient has not had a single unpleasant noise since the first application, fifteen months ago. The collodion was applied only twice, and no other treatment of any other kind was employed.—*Dublin Journal of Medical Science*, June, 1880.

Numerical Changes of the Blood-Corpuscles in Inflammations.—In a note to the *Académie des Sciences*, M. Hayem details the results of his investigation on this subject. In a state of health the number of the white corpuscles varies with the age: during the first 48 hours of life the average number is 18,000; at the end of the first month it is 8,000; in children from several months to four years of age it is 6,000; in adults and old people it is 5,000. The number is the same in women as in men, except that there is generally an increase of from 1,000 to 2,000 during the menstrual epoch. During the existence of inflammatory processes, however, the white corpuscles increase greatly in number. In 65 observations M. Hayem found that the number varied between 7,000 and 36,500. The first figure was found in a case of slight, almost apyretic erysipelas of the face; the second in a double caseous pneumonia with cavities. In the majority of the observations, the number varied between 15,000 and 20,000. In general, it might be said that the number was greater in direct ratio to the activity of the inflammation. The numerical variations of the red globules were so irregular that it was found difficult to formulate any law for them. Still, it seemed to be demonstrated that an acute inflammation of from eight to ten days' duration, such as a pneumonia, almost always caused a loss of from 200,000 to 1,000,000 red globules per cubic millimetre. When an acute inflammation was followed by a rapid recovery, the number of red corpuscles became physiological in a few days, but when it terminated in a chronic condition, this restoration was not observed. The number of the hæmatoblasts, which is in the normal state 225,000, presented little change during the acute stage of inflammation. The only points of any importance are that it attained its minimum at the moment the inflammatory affection reached its crisis, and then began at once to increase rapidly and progressively, reaching its maximum, which was two, three, or almost four times greater than the normal figure, within two or three days in the distinctively acute cases. This accumulation of hæmatoblasts, which constituted by its constancy and intensity a sort of hematic crisis, was intimately connected with the evolution of the lesion; it was observed in the fatal cases as well as in those that terminated in recovery, provided resolution had set in.—*Le Courrier médical*, March 27, 1880.

The Digestive Action of Papaya Juice.—Last year, M. Bouchut reported the results of some experiments with the juice of the carica papaya, which proved that papaïne, the digestive ferment contained in it, forms, with albuminoid substances (fibrin, gluten, raw meat, milk), combinations having all the characters of the assimilable peptones. He has since continued these experiments with living tissues, both healthy and pathological, such as cancers and adenomas, and has arrived at some interesting conclusions, which are embodied in a paper recently read before the *Académie des Sciences*. These living tissues are digested, and converted into peptones by the papaïne, just as is the case with dead tissues. In three cases of cancer of the breast, and one of secondary cancer of the inguinal glands after castration, injections of papaïne were followed by softening of the large, hard tumors. The liquid product drawn by aspiration from one of these tumors, which was as large as a fist, was examined by M. Henninger, and seemed to be a veritable peptone. In one of the experiments a large frog was partly skinned, and immersed alive in a jar filled with papaya juice diluted with four parts of water. In twelve hours the animal was dead, in twenty-four hours it was partly digested, and at the end of two days nothing was left of it but the skeleton. M. Bouchut thinks that these experiments justify the conclusion that papaïne is capable of digesting all the organized tissues, even while living. It is, according to him, a *vegetable pepsine*, which acts upon living tissues in the same way as on albuminoid substances deposited in the stomach or in a laboratory jar.—*Le Courrier médical*, March 27, 1880.

Removal of the Thyroid Gland.—M. Tillaux reports a case in which he removed the thyroid gland successfully. The patient, a woman twenty-nine years of age, had a goitre as large as a child's head. The tumor caused severe attacks of suffocation at night, and attacks of violent palpitation of the heart. Her vision was impaired, but there was, strictly speaking, no exophthalmia. The operation was very tedious and difficult, and the hemorrhage was alarming. The operation was, however, entirely successful. After the tumor was removed the attacks of suffocation ceased at once, and all the other morbid phenomena disappeared likewise.—*Le Courrier médical*, May 1, 1880.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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THE PHYSICIAN AND PHARMACIST.

In the present issue we publish several letters which will doubtless be read with some interest in connection with editorial remarks made in recent numbers of the Medical Record, upon the general subject of which they treat. The correspondents, as might have been expected, view the situation from different standpoints, but each, in his own way, endeavors to do the best for his side of the argument. It is somewhat reassuring, in counting upon the chances of a proper and mutual understanding, to notice that the real points of difference are not absolutely irreconcilable. In other words, considering the views presented and the facts set forth by our correspondents, we were not far out of the way in our judgment of the situation. But it is not our purpose to go over old ground, but, by commenting upon some of the suggestions thrown out by our contributors, to extend the discussion of the general subject. In so doing we shall not attempt to follow any logical order, but take up the different points as they are presented by the writers.

Concerning the impropriety of physicians or druggists answering the questions of patients as to the contents of prescriptions, or the character of the medicines prescribed, a great deal can be said. On general principles, it is not only not necessary for the patient to know the remedy he or she is taking, but such knowledge is sometimes prejudicial, if not positively harmful. There is, of course, a temptation to appeal to the intelligence of our patients, with the idea that we can the better retain their confidence; but this can be done in another way than by discussing the nature of the remedies to be used. The opposite is, however, so often done, even by the leading practitioners, that it is growing into a monstrous abuse of professional privilege. Not only have some consultants the habit of giving clinical lectures in their offices, to patients, but the latter are informed as to the medicine and its dose, which are indicated in the particular case. Is it any wonder that the patient considers himself a party in the consultation, and acts accordingly? Consequently, in the course of the discussion, when it is proved to the satisfaction of the patient that he understands his case better than does the doctor, the latter is voted an ignoramus, and is discharged. But, even when this is not the case, and the physician is able to maintain his position as principal adviser, the next medical attendant may not be so fortunate. Aside from not knowing the patient's peculiarities as well as the previous adviser, he is in entire ignorance of the remedies which have been made by mutual agreement so eminently satisfactory to the patient. No one can deny that the second attendant operates at a disadvantage, and that he is, very unjustly, made the subject of invidious comparison.

It is sometimes tempting human forbearance to be informed by the patient that Dr. A. never believed in bromide of potassium, carbolic spray, ergot, or pilocarpine, when Dr. A. is clearly in the wrong. Still worse is it to be compelled, under such circumstances, to explain the case to the patient, and at the same time leave the impression upon his mind that medicine is an exact science. But the necessities for such explanations seem to be growing upon us day by day, because the patient is being educated to believe that he has a right to know what he is taking.

Why this should be so it is difficult to explain, save upon the assumption that many physicians are careless with the remedies they employ, and are content to give general directions as to doses and the like, merely to save what appears to be the trouble of prescribing scientifically. How often the patients are told to take so many grains of quinine night and morning for malarious troubles, or so much laudanum when the pain appears, so much digitalis when palpitation shows itself, etc., etc., thus virtually leaving them with the detail management of their own cases. This is not what it should be. It is beginning at the wrong end, and cannot fail to work disastrously against the patient as well as against the profession. The people need education on medical topics, but cannot be expected to understand how to treat disease, nor to learn the real value and application of remedies. It is much better that these points should be mysteries to them, rather than that they should be tempted to accept that "little learning" which we have the best authority for saying, "is such a dangerous thing."

It is safe to say that where one patient may be actually benefited by knowing the remedy he is taking, ninety and nine are positively harmed by it. The exceptional cases of benefit are those in which marked idiosyncrasies exist, in which it is necessary for the patient to know that certain medicines are positive poisons to them. The rule of benefit to the sick one is altogether on the side of ignorance of the remedies prescribed. There is something in the efficacy of a blind faith in medicines which cannot be gainsaid, and there is no reason why the therapeutist should not take advantage of it.

But in fear that we may, by further pursuing this part of the subject, drift into the discussion of self-evident propositions, we hasten to refer to other matters bearing upon the general question under consideration. The charge, by one of our correspondents, that physicians create a demand for proprietary articles, is a serious one. We are much inclined to the belief that his experience with prescribers has been exceptional, and that his remarks by no means apply to the profession as a body.

It is hardly an excuse for counter-prescribing, for selling patent medicines, and the like, to say that the prescription business does not pay. No physician hinders a pharmacist from making a living profit on the compounding of a prescription, if the pharmacist shows a disposition not to interfere with the functions of the prescriber. As we have said before, in compounding medicines, skill will always be in demand, and none are better able than the members of the medical profession to appreciate the fact.

No language is too strong to use against interference, by word or deed, on the part of compounders of prescriptions. The horse-medicine affair alluded to by one of our correspondents has more than a ludicrous aspect, as also the case in which the obliging druggist is ready to volunteer instruction to his anti-quinine customer. It must be admitted that there is a strong tendency with some physicians to dispense their own remedies. This appears to be a retaliatory measure in lieu of the prevalence of counter-prescribing by apothecaries, and of their practice of repeating prescriptions without authority. The hint to cease both these practices is a very broad one, and should be considered by the compounders from a business point if from none other.

RAPID BREATHING AS A PAIN-OBTUNDER.

In 1875 Dr. W. G. A. Bonwill, a dentist of Philadelphia, discovered that by causing his patients to breathe rapidly for a few minutes, the sense of pain was often so obtunded that he could extract teeth without causing any discomfort. The matter was, soon after this, taken up by Dr. Addinell Hewson, who made a favorable report of his experience with the method, at the International Medical Congress in 1876. Not much interest was excited, however, and the subject was virtually dropped.

At a recent meeting of the Philadelphia County Medical Society, papers upon rapid breathing, as a means of inducing analgesia, were read by Dr. Benjamin Lee and by Dr. Bonwill. Considerable discussion followed. A perusal of the papers and discussions leads to the conclusion that there may be something of considerable practical value in Dr. Bonwill's discovery. At any rate, as it is a thing which can be easily tried without risk to any one, we give briefly the facts regarding it.

In some cases it is necessary, when rapid breathing is to be undertaken, to have the patient sitting in a chair. The most favorable position for him, however, is that of lying down on the side; and it is generally best to throw a handkerchief over the face, so as to prevent the patient's attention from being distracted. He should then be made to breathe at the rate of about one hundred respirations per minute. The direction best given is to "blow out" in rapid puffing expirations. At the end of from two to five minutes, the patient continuing his rapid breathing all the time, teeth may be drawn or incisions made, and there will generally be an entire or partial absence of pain, which will last thirty seconds or more. The sense of touch is not affected, nor is consciousness gone. When the breathing is first begun the patient may feel some exhilaration; following this comes a sensation of fulness in the head or dizziness. The face during this time becomes at first flushed, but later, according to Dr. Hewson, it is pale or even bluish. The heart beats more feebly and somewhat faster than normal. We are told that this phenomenon of analgesia is produced in females more readily than in males, and in those of middle age more easily than in the young or old. Children under ten can rarely be made to breathe properly. In cold, clear air a longer time is required than when it is warm.

Regarding the practical uses of the method, it is claimed that it may supplant ether, chloroform, or nitrous oxide in dentistry, minor surgery, and often in obstetrics. In the latter case it is especially applicable when the forceps are to be used. A case of tracheotomy and one of ischio-rectal abscess were related, in which analgesia was successfully produced by rapid breathing. The ordinary anæsthetics, when employed for major operations, can be made more effective by combining with them rapid breathing. According to Drs. Garretson, Hewson, and Kite, it takes from one-half to three-fourths less of the liquid anæsthetics to produce insensibility when the administration is supplemented by rapid breathing. The after effects are also less nauseating and unpleasant.

As regards the possible dangers, it is denied that there can be any. Dr. W. R. D. Blackwood, however, stated that he had tried the method on a somewhat hysterical patient, who kept on breathing rapidly for so long a time that he was somewhat alarmed.

The theories of how the rapid breathing acts in thus obtunding pain are as yet unsatisfactory. Dr. Bonwill and Dr. Hewson, its two especial champions, entirely disagree in their attempts at explanation. Dr. Bonwill assigns three causes: 1st, the diversion of the will-force caused by the rapid voluntary muscular action; 2d, the specific effect of carbonic acid gas set free from the tissues, caused by the throwing into the lungs five times the normal amount of oxygen; 3d, hyperæmia, due to the excessive amount of air passing into the lungs and causing a damming up of the blood in the brain. The main point of the theory is that rapid breathing produces a hyperoxidation of the blood, which sets carbonic acid free in the tissues. Dr. Hewson, on the other hand, believes that there is a diminished oxygenation of the blood during rapid-breathing, and that the excess of carbonic acid which results poisons the nerve-centres and causes analgesia.

It is unnecessary to discuss these theories. The one is crude, and neither is sufficient. As far as the method itself is concerned, it seems to be well proved that analgesia to a greater or less extent can be obtained by it. Its practical usefulness is not so well established. A good many failures have occurred, and a large amount of evidence is yet to be obtained in order to show its reliability. The method is simple, however, and there ought not to be any trouble in speedily determining its exact value.

Reviews and Notices of Books.

NEURALGIA: ITS NATURE AND CURATIVE TREATMENT. By THOMAS STRETCH DOWSE, M.D. New York: G. P. Putnam's Sons. 1880. 8vo, pp. 194.

THIS book is essentially a clinical treatise on neuralgia. The author makes no attempt to discuss the nature of the disease or to suggest a morbid anatomy for it. After nine pages of introduction, the subject of treatment is taken up, and this occupies the rest of the book. It is divided into a chapter on the treatment of neuralgias in general and one on special neuralgias. Numerous illustrative cases are given. The book will form a very useful and complete guide to the therapeutics of the disease. It is a work designed especially for the busy practitioner, and will doubtless fulfil its purposes in this direction.

If we were to make any criticisms, they would be that the author has failed to inform himself upon what American physicians have done for the therapeutics of neuralgia. The experiments of Seguin and others demonstrating the value of aconitum, for example, seem to be entirely unknown. We cannot agree with Dr. Dowse in his constant recommendations of alcohol and opium for neuralgics. If we may judge by his reported cases and other statements, a large majority of his patients are put upon these drugs—until cured; and all the cases reported are cured with a suspicious uniformity. Dr. Dowse evidently does not believe that anything can be taught by his failures. The author is as heroic in all his doses as he is with opium; however, he is in accord with most neurologists. Thus, chloral is given in ℈ij. to ℈iv. doses; atropia, gr. $\frac{1}{20}$; tinct. gelseminum, ʒj.; chloroform, ʒj., etc. Such doses often need to be given, but they should be recommended with a caution. The book is a model of typographical neatness.

FOURTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF WISCONSIN, 1879.

THE State Board of Health of Wisconsin has done exceptionally good work since its organization, and the present report contains much valuable matter. Besides giving an account of the prevalent diseases and general sanitary condition of the State, a number of articles upon special topics are contributed by members of the Board. The subject of the school-house and school-system is discussed more than anything else, and, judging from the facts given, such discussion is much needed. After showing a number of sanitary defects in the school-buildings, the report states that in at least seven per cent. of these there are no privy accommodations at all, while in twenty per cent. boys and girls, promiscuously, are compelled to make use of the same apartment. Furthermore, in fifty-eight per cent. the privies are entirely unscreened from the weather and from observation. If, as quoted in the report, the true test of a nation's civilization is to be found not in the splendor of its public buildings, but in the neatness of its privies, Wisconsin cannot claim to rank very high. There is no reason to suppose, however, that she is worse than many other States. Papers by Prof. T. C. Chamberlain, on Adulterations of Food, and by Dr. G. F. Wilter, on Ground Air, embody some very useful facts. The Board reports an increase in its local correspondence and a wider appreciation of the value of its work.

SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF RHODE ISLAND FOR 1879.

WE have seen no report from a State health board which contains such full and well analyzed vital statistics as does this. The tables with comments embrace a large portion of the report, and are too voluminous for any adequate criticism here. The State Board has under its supervision the contagious diseases of animals. It has done good work in ridding the State of glanders and in preventing the spread of pleuro-pneumonia. An essay by Dr. Oliver C. Wiggin, on the Artificial Feeding of Infants, to which was awarded the Fiske Fund Prize, is incorporated in the report, and forms a valuable part of it. The Ventilation of School-Houses, The Sewerage of Dwellings, and Color-Blindness, are subjects that are well discussed. The volume is creditable to the Board, and should have a more than usual local value.

ELEVENTH REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS, for the six months ending June 30, 1879.

THE present report is made up chiefly of circulars upon Disinfection, House-Drainage, The Care of Young Children, Boards of Health, and Registration. All these are excellent documents, but are now pretty well known. The report covers only six months, as on June 30th its organization ceased, and the new Board of Health, Lunacy and Charity took its place.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE, Forty-seventh Annual Meeting, Knoxville, April 6, 7, 8, 1880.

THE Tennessee Medical Society has shown remarkable enterprise in getting its proceedings published within three months of the date when they took place. We commend the example to other societies. A report of the proceedings of the Society was published in THE RECORD at the time of their occurrence, and we can give but a brief space to the present volume. It contains a good many practical papers, but there is no evidence of scientific work, and the contributions on the whole are rather cheap. The book bears on its cover the seal of the Society, inscribed with the legend: "The Science of Medicine an Important Part of the Science of Humanity." We don't know exactly what is meant by the "science of humanity," but presume it has something to do with the lady with very attenuated extremities who sits in her night dress just above the Humanity. Whatever the meaning, the motto is a very weak one, and we advise the Society to have it changed.

Reports of Societies.

MINNESOTA STATE MEDICAL SOCIETY.

Twelfth Annual Meeting, held at Albert Lea, Minn., June 15 *and* 16, 1880.

Dr. A. C. Wedge, of Albert Lea, President, in the Chair.

Tuesday, June 15th—First Day.

The President congratulated the members of the Society on their success in establishing a permanent State Medical Society, and alluded to the rapidity with which the population of the State was increasing, and to the improved travelling facilities for reaching places at which meetings of the Society were held. He also referred to the value and success of the State Board of Health, and said it was an outgrowth of the State Medical Society.

Dr. C. N. Hewitt, Chairman of Committee on Practical Medicine, made his report.

CHRONIC CONGESTION OF THE UPPER AIR-PASSAGES.

Dr. Owens, of St. Paul, read a paper on "Chronic Congestion of the Upper Air-Passages." He stated that in his experience chronic Bright's disease was an occasional cause of this condition, and that although chronic degenerative changes in the parenchyma of the kidney did not always cause diseases of the mucous membrane of the air-passages, yet it acted as an exciting cause when there existed a constitutional tendency to congestion of the mucous membranes, and increased the severity of the disease when already present. He considered the strumous diathesis a most important predisposing cause. With regard to treatment, he suggested that it should be both local and constitutional. Where the strumous diathesis was present, cod-liver oil, iron, etc., was very useful. In those cases resulting from chronic Bright's disease, saline diuretics, iron, cod-liver oil, etc., were indicated. Hot water injected with a post-nasal syringe and gargles were of great value. He also recommended frequent applications of mild astringents.

Dr. D. W. Hand, of St. Paul, read a paper on "Diseases of the Tonsils," giving a detailed account of the character and treatment of each.

EMPYEMA.

Dr. Talbot Jones, of St. Paul, reported a case of empyema, which occurred in a boy eleven years of age, with no hereditary taint. In March last the patient received an injury to his left chest. A fortnight after the injury he began to suffer from loss of appetite, shortness of breath, and pain in the left chest. He had a succession of rigors. He soon became very weak. When Dr. Jones saw the child it was in a desperate state, and would, in all probability, have died in two or three days, had not an operation been at once performed. A physical exploration showed complete displacement of the heart, which was beating on the right side of the chest. There was marked bulging outward of the intercostal spaces as far up as the second rib, on the left side. Absolute flatness on percussion, and absence of the respiratory murmur when the ear was applied to the chest. He decided to perform paracentesis thoracis, and introduce a drainage-tube. He made the puncture in the seventh intercostal space, midway between the spine and sternum. Pus, to the amount of two quarts, was removed. He would allow the pus to run for a minute, then plug the canula for fifteen minutes, then allow it to run again for a minute, and so on for an hour. This was in order to permit the compressed lung to expand. For a drainage-tube he used an English catheter. The pleural cavity was washed out twice a day with a three per cent. solution of carbolic acid. Under tonics and a general supporting treatment, the patient made a good recovery. For five months after the operation, secretion and escape of pus went on. He then withdrew the tube and allowed the wound to heal.

At the present time, eight months after the operation, the boy continued in perfect health.

DIPHTHERIA.

Dr. Samuel D. Flagg, of St. Paul, read a paper on "Diphtheria." It consisted of a clinical report of four cases in his practice. He alluded to the period of incubation. In one case sudden death occurred, the cause of which he supposed to be heart-clot. His experience in these cases added weight to the opinion that throat diseases of various forms were prevalent during epidemics of diphtheria, and to the views of Hutchinson, that follicular tonsillitis was a near relation of diphtheria and may arise from it.

A CASE OF SO-CALLED WHITE CEREBRAL SOFTENING, WITH PARTIAL HEMIPLEGIA.

Dr. Talbot Jones read a paper entitled "A Case of so-called White Cerebral Softening, with Partial Hemiplegia."

J. T., aged sixty years, never suffered from syphilis, was not addicted to alcoholic indulgences, and had never received a blow on the head. He lived alone on a farm, did his own work, and prepared his own meals.

Hemiplegia of the left side developed so gradually that it was impossible for the patient to state when his attention was first drawn to the commencing palsy. He declared he had suffered from more or less headache for months, from tinnitus aurium, but never from vomiting. He never fell to the ground suddenly unconscious. The partial paralysis was accompanied by numbness or fomication. The palsy chiefly affected the lower extremities. It was with great difficulty that the patient could be understood. There was difficult articulation, and he jumbled his words in such a manner that one was often obliged to guess his meaning. Oftentimes, in the midst of a sentence, he would hesitate or stop, as though he had lost the thread of his discourse, or could not command the proper words to express his ideas. When well he was noted as being a quiet, reserved man, but it was now noticed that his emotional nature had undergone a decided change. He would be gay and mirthful without any adequate cause.

There was marked mental decay, progressive deterioration of memory, defective ideation, and impaired volition.

The face was not involved, and when the tongue was protruded it did not point toward the paralyzed side. In walking it was observed that the left foot was dragged after him. There was present a certain rigidity of the muscles—chiefly of the leg—but to a less extent observed in the arm also. The diagnosis was arrived at by exclusion. It was necessary to exclude *congestion, cerebral anæmia, abscess, hardening*, and *exhaustion of brain-power*, encountered among literary or professional men engaged in laborious intellectual pursuits. These were taken up in turn, and the disease under consideration carefully differentiated from them. The *treatment* in a generous diet and tonics of iron, strychnine, phosphorus, etc. The patient improved physically, but not mentally. It was impossible to arrest the progressive mental decay. The patient died recently in England, his former home, whither he had gone by the doctor's advice.

Dr. D. W. **Hand** reported a case of locomotor ataxia.

Dr. **Emery** read a lengthy paper upon the "Metric System of Weights and Measures." He compared this system with the one now generally in use, and showed the advantages of the former over the latter. He urged the members to investigate this subject, and to write prescriptions according to the metric system.

CASE OF OVARIAN TUMOR.

Dr. D. W. **Hand** reported the following case of ovarian tumor:

Miss S., aged twenty years, had been in delicate health for about two years, but was able to do light work.

January 21, 1880, she was admitted to St. Luke's Hospital. On examination a fluctuating tumor was found pressing down between the rectum and vagina, and extending nearly as far as the perineum. The abdomen was somewhat distended, but soft, and there was a fulness in the left inguinal region. Drs. Hagan and Wharton saw the case with me. The diagnosis was ovarian tumor presenting in this unusual position. To make our diagnosis more certain we aspirated the tumor, and drew off six ounces of a clear albuminous fluid, about as much more coming away after the withdrawal of the needle. A second fluctuating cyst could now be detected still higher up, and it was now evident that the tumor was *multilocular*.

The patient remained comfortable for three days. At this time, while she was having an action from the bowels, and was sitting upright on the vessel, contrary to positive orders, one of the cysts ruptured into the intestines, and there was quite a copious discharge of the same straw-colored fluid that had been drawn away with the aspirator. Some of the fluid evidently escaped into the peritoneal cavity—for almost immediately she had a chill, and all the symptoms of peritonitis began to manifest themselves. Large doses of opium were of no avail. The inflammation soon spread over the entire abdomen, and death took place on the fifth day. This is the second case of ovarian tumor, presenting through Douglas's fossa, that had come under my observation.

DEATH FROM EXPULSION OF UTERINE FIBROID.

Dr. E. J. **Davis** read a paper entitled "Death from Expulsion of a Musculo-fibroid Tumor of the Uterus." He first reported this case in the Transactions for 1878, but it had a subsequent history. On February 24, 1879, eleven months after the first operation for removal, he was called on again by the same lady to remove a similar tumor, which he did in the same manner as in the first operation. The tumor resembled the former one in shape, character, size, and place of attachment. After removal a careful search was made for any shreds which might be left attached to the uterus, but none were found. The patient came again on August 7th, five and a half months from the time of the last appearance. It was found on examination that the tumor had reformed. On the same day, August 7th, it was removed by a method similar to the one that was employed for the removal of the previous two tumors. This resembled, in all respects, the other two. On examination after removal an enlargement was found in the hypogastric region. The patient soon began to have pains identical with labor-pains, which were very severe and continued till the tumor was expelled and lay between her thighs. This uterine effort caused her great nervous excitement and prostration. Owing to her condition, and its being night, operative interference was put off till the following morning. But the patient grew weaker and weaker, and died before noon the next day. Toward evening a post-mortem examination was made, and the pedicle was found attached to the fundus uteri. All the organs were normal. The tumor weighed five and a quarter pounds. The two latter tumors attained their growth in four and a half months.

POST-PARTUM HEMORRHAGE.

Dr. **Daniel Leasure**, of St. Paul, read a paper on Post-partum Hemorrhage, in which he took the ground that it was a true collapse due to sudden failure of inervation in the ganglionic centres, following the supreme act of parturition, similar to the failure of the heart which takes place in certain acute diseases, which also arose from defective inervation by the ganglionic system. On the assumption that all the acts of purely organic life are entirely subject to that system of nerves, he argued that any failure of function in an organ dependent on it for inervation, must of necessity cause a temporary lapse of function, or lesion in that source of inervation, and that to suspension or only partial action of the nerve-centres of organic life, and not to the uterus *per se* was due the suspension of contractility in the recently emptied uterus.

He drew attention incidentally to the fact that natural labor was not necessarily accompanied by pain, and instanced the painless delivery of women in the purely savage state who are found at the capes and in Australia, and also the absence of pain in purely wild animals, and suggested that the advanced development of the cerebro-spinal centres in the civilized woman destroyed or modified the original coordination between the two systems of nerves, as they existed in the natural wild woman, and which accounts for the painful labor in the civilized woman. Upon this hypothesis he based his treatment of post-partum hemorrhage, and showed that all applications made to the uterus itself acted as irritants, such as manipulations of the organ, either through the abdominal wall or in the cavity itself, or hot or cold irritant substances applied to the cavity, which by reflex action upon the ganglionic centres, brought about a return reflexion of nervous energy that caused the organ to wake up from its lethargy, and by contracting close up the open lacunæ of the placental wound.

He also mentioned instances of death occurring from post-partum collapse without more than the normal amount of blood having been lost, and he argued that in these cases the organs of circulation and respiration were involved in the results of the collapse.

With regard to treatment he mentioned the usual irritants and manipulations applied to the uterus externally and internally, and recommended the use of vinegar as an irritant to bring about reflex action of the ganglionic centres, so as to cause them to act on the dormant uterus. Hot water injected into the cavity of the uterus, was, in his opinion, the best of all irritant agents. The water must be hot, warm water was useless. In support of this he mentioned the benefits which result from the use of hot water as a so-called styptic in ordinary traumatism. In the ordinary sense of the word, heat was not a styptic, but it was a stimulant to the nervous fibrils in the wound. and thus, by reflex action through the vasomotor system, caused the torpid walls of the blood-vessels to contract.

The faradic current he instanced as the most effective external irritant. The current must be directed through the chief centres and plexuses of the sympathetic, through the great trunks of the cord of the sympathetic and through the uterus.

For internal use the best remedies were ergotin and emetin. He showed the influence of these drugs on the centres of organic life and their special action on the vasomotor system. These ought to be given persistently, coupled with ordinary and extraordinary effects by manipulation and irritants. He preferred their administration hypodermically, for given in this way they were more prompt in their action. As a prophylactic measure he recommended a dose of ergot before delivery, for it could do no harm and might ward off a danger none the less terrible because frequently encountered.

ORGANIC HEART DISEASE.

Dr. T. F. Jones read a paper entitled, Case of a Patient with Organic Heart Disease attacked and beaten by Two Men. His Death Five Months after. Coroner's Inquest. The Men Arrested and their Subsequent Examination before Judge Flint. Interesting Medico-legal Questions Involved.

(This was quite a lengthy paper and only a short abstract can be given.) The patient was thirty-five years of age, and by occupation a horse-trainer. He never suffered from acute rheumatism. About five months before his death he was attacked and beaten by two ruffians. Up to the time of his assault the patient considered himself perfectly healthy. He had never had his attention drawn to his heart by any unusual sensations in it.

About six weeks after the assault he began to be troubled with dyspnœa when he exerted himself, with oppression over the præcordia, palpitation and other symptoms of heart disease. The symptoms increased in severity as time went on. The patient was first seen by Dr. Jones about six weeks prior to his death. He was, at the time of Dr. Jones's first visit, in a paroxysm of dyspnœa, and quite cyanotic. He experienced a frightful sensation of being smothered; had pain over the heart and stomach, and also suffered from palpitation of the heart and a most troublesome cough.

On examination, it was found that there was dulness over the left lung. The area of superficial cardiac dulness was increased to a very great degree. The heart beat tumultuously. There was observed a powerful heaving movement of the whole left chest at each ventricular systole. The rhythm of the heart was altered and the organ beat irregularly and spasmodically. The apex-beat was in the seventh intercostal space, and was displaced downward and laterally some four or five inches beyond its normal location.

There was predominant hypertrophy of the organ as shown by the powerful impulse against the chest-walls at each ventricular systole. With the stethoscope over the apex a loud and rough endocardial murmur was heard synchronous with the systole of the ventricles. This murmur was not propogated into the carotids, but could be heard laterally around the chest, and very distinctly under the lower angles of the scapula. At the base of the heart there was a murmur indicative of some aortic regurgitation. There coexisted then, in this case, aortic and mitral regurgitation.

The man grew worse in spite of treatment and died five months after he was assaulted by the two men.

The day following his death the coroner held an inquest with a view to investigate whether or not death was hastened by the assault.

Drs. Owens and Jones made the autopsy. The body was very much bloated, owing to post-mortem changes and to the general dropsy which had set in a short time previous to death. The left lung was found contracted, owing to pressure from the enlarged heart. The heart itself was enormously enlarged, weighing just twenty-two ounces. The endocardium was injected and bore other evidences of inflammation. On one of the aortic semilunar valves was seen a patch of atheroma. There was also slight circumscribed pericarditis. The valves were in a condition which explained the murmur heard during life.

The men who committed the assault were arrested and subsequently examined in the municipal court of the city on the charge of manslaughter. During the trial several important and interesting medico-legal questions arose, and it is to be regretted that they cannot be given here without extending this paper beyond reasonable limits. No possible connection was proven between the injuries and the heart trouble.

Evening Session.

The evening was devoted to the discussion on diphtheria. There was a general exchange of views as to the etiology, morbid anatomy, prevention, and treatment of this disease.

Drs. Leasure, Davis, Jacoby, and Berry took the most prominent part in the discussion.

Wednesday, June 16th—Second Day.

Dr. E. J. Abbott, of St. Paul, Chairman of Committee on Surgery, made his report.

Dr. S. Blood, of Owatonna, read a paper entitled: "Amputation at the Knee-Joint for Senile Gangrene," founded on the history of a case.

NEW METHOD OF EMPLOYING PRESSURE IN TRAUMATIC ANEURISM.

Dr. B. R. Palmer, of Sauk Centre, reported a very interesting case of traumatic aneurism, with a novel method of employing pressure.

Dr. Palmer says: "I have lately used a method of applying pressure to an artery or any of the limbs, which, so far as I know, is new. It is effectual in controlling the action of the artery and accomplishes its object without any constriction or pressure of the soft parts, other than the spot at which the pressure is desired. It consists in the application of a broad band of plaster-of-Paris around the limb, with an aperture in it directly over the part of the artery to which you wish to apply the compress. Through this opening the compress is to be adjusted to the limb, and tightened and fixed in place by an elastic roller, which envelopes the limb outside the plaster shell, and is placed over the projecting portion of the compress, with sufficient tension to check the circulation in the artery to the desired extent. The idea occurred to me in the case of a traumatic aneurism of the femoral artery, in the thigh of a butcher, caused by the accidental plunging of a long, narrow, pointed butcher-knife into about the middle of the thigh. The patient is a very robust and muscular young man, and the aneurismal tumor, an hour or so after the accident, was very large—about four inches across and about three inches thick, with pulsation. I immediately applied the plaster-of-Paris band as before described, using a compress of cork covered with chamois, and projecting an inch and a half above the surface of the band. This was applied about two inches below the profunda, and the roller of elastic webbing brought around the band and over the projecting compress, tightening it at every turn until the pulsation in the tumor could be no longer felt. The pressure caused very little uneasiness, and was kept up for twenty-four hours, after which time it was removed, and pulsation in the tumor did not return. The compress was kept on, more lightly applied, for three days longer, when the patient, contrary to my advice, returned to his shop. The wound was inflicted on the 25th of April last, and on examination of the leg two weeks since, I found absorption complete and the patient well."

Dr. F. A. Dansmoor, of Minneapolis, reported a case of amputation at the knee-joint, performed on a boy seventeen years old.

Dr. James Davenport reported a case on which he had operated for stone in the bladder. The patient, a German, aged twenty-eight years, was seen in St. Joseph's Hospital during August, 1879. By means of the sound a stone was found, about one inch in diameter, situated a little to the right of the neck of the bladder. An attempt was made to grasp the stone, which failed; the lithotrite would not seize it.

It was then determined to perform lithotomy, the median operation being decided on. The usual incision was made, and after the knife had entered the bladder, the finger was passed in and two large stones were discovered. One of these stones was so large that it was found necessary to crush it before it could be removed. About the end of the third week the urine began to flow through the urethra, and in ten days from this time was under complete control.

While in the Pineries in May, 1878, the patient suffered from retention of urine brought on by a severe wetting. To relieve the retention, he passed up his urethra, in lieu of a catheter, a hollow reed of some kind which broke off in the bladder, and round the pieces left in the bladder the phosphatic salts were deposited.

MEMBRANOUS CROUP.

Dr. Talbot Jones read a paper on "Membranous Croup." He reported two cases. In one case, that of a girl, aged three years and two months, tracheotomy was performed. The operation was unusually bloody, and ligatures had to be placed on several large veins before the bleeding could be stopped. Respiration became less labored directly the tube was introduced, and when the child emerged from the influence of the anæsthetic it was at once seen that she experienced great relief. Whenever symptoms arose indicating obstruction, the canula was removed and cleaned. He had the little patient placed in a tent, the atmosphere of which was saturated with moisture by means of steam.

Everything progressed favorably for about thirty hours after the operation, but about this time alarming symptoms arose, showing an extension of the inflammation and obstruction below the tube. There was a sudden, sharp rise in the temperature, the symptoms became more aggravated, and the child died thirty-eight hours after the operation. The doctor believes that the operation lengthened the child's life for about thirty hours.

Dr. F. A. Dansmoor reported the following interesting case: Paul A., aged twenty-seven, about a year previous, fell to the ground from a platform on which he was working, the distance being seventy feet. Partial paraplegia was the result. During the next six months there was a slight return of sensation and motion, but he had no control over his urine. Several stones of different sizes formed in his bladder. One large stone lodged in the urethra, about one inch in front of the scrotum; it finally sloughed through and was removed by the patient, and it left a large fistulous opening.

Another stone became encysted in the anterior wall of the bladder, and then sloughed through, coming away just above the pubic arch, nearly in the median line.

Six months before the patient was first seen by Dr. Dansmoor, he had had the operation of lithotrity performed on him. When seen for the first time by the doctor, his urine was constantly dribbling away, and was caught in an old leather pouch. He had a long prepuce. The fistula in the urethra was five-eighths of an inch long, and about the same width. The entire urethra was a succession of dams and strictures. The buttocks were swollen, and doughy to the touch. He was taken to the hospital, and a week later the lateral operation for stone was performed. The stone weighed seven drachms, and was one and three-fourth inches in length, and one inch in width; it consisted of phosphates. The man made a good recovery. About a week after recovery from this operation, the doctor began to close the urethral fistula. The edges of the fistula were made raw, and brought together by means of silver sutures, and the fistula closed; but a new one was made by the wire, through which the urine flowed instead of going on to the meatus. This little fistula was cauterized, but to no purpose. The urine continued to flow through it. Finally, Dr. Stone, upon invitation, performed internal urethrotomy, without an anæsthetic. All the strictures were completely divided. Next, the operation for phymosis was successfully performed. After allowing the patient a short rest, he was taken to a dentist's office and a sound introduced into his urethra; then a drill (such as is used for boring out cavities in teeth) was pushed through the minute fistula down to the sound. Every part of the annoying little opening was thus completely denuded. To draw the edges of the fistula together, hare-lip pins were used. The patient was put in bed for a week, wearing a catheter. The same operation was performed a second time, and at last the patient was completely cured.

Dr. R. D. Barber, of Worthington, reported a case of empyema occurring in a boy of nine years of age. Twenty ounces of pus were drawn off by aspiration. It accumulated again, and was again drawn off. A drainage-tube was introduced, and the cavity of the pleura washed out with carbolized water. It was a long time before pus ceased to flow through the tube. When this took place the tube was withdrawn and the wound allowed to heal; the boy was then quite well.

Dr. C. H. Lavell, of St. Paul, reported some interesting cases. Among them was a case of a man, aged forty, on whom he operated for pterigia, removing three of these growths. The case was interesting, not only on account of the unusually large size of the growths, but because of the presence of a double growth in one eye.

Both the internal tumors impinged on the cornea. and were transplanted. The external one was slightly attached to the margin of the cornea, and was dissected off and removed. Result satisfactory.

He also reported a case of *dermoid tumor* of the sclerotic, of very large size and partially adherent to the outer edge of the cornea, and by its size interfering with the movement of the eyeball outward. The eyelids were also prevented from being properly closed. The history and pathology was given, and the tumor was removed by careful dissection from its attachment. The wound healed without causing any noticeable deformity.

The vitality of the eye was shown by a case in which he had operated for artificial pupil. On the day following the operation, the patient, a boy, was taken home by his father, in the midst of a snowstorm, a distance of fourteen miles. When he was next seen, which was not for two months, the eye was found to be in good condition; no trace of iritis, and the pupil clear.

The officers elected for the ensuing year are: *President*, Alex. J. Stone, of St. Paul; *First Vice-President*, E. J. Davis, of Mankato; *Second Vice-President*, R. S. McMurdy, of Minneapolis; *Third Vice-President*, J. Vivian; *Secretary*, C. H. Boardman.

After the appointment of the usual standing committees the Society adjourned to meet in St. Paul the third Tuesday in June, 1881.

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Small-Pox in Birds.—In Europe and Hindostan variola is so common in pigeons and poultry as to constitute a veritable plague. Thus Guersent records that out of a dovecote of 1,000, scarce 100 could be found that did not bear marks of the disease, while Tytler says the poultry-yards in India were habitually depopulated by the plague. Bechstein and others claim that this is the true small-pox, derived from the human being and conveyable back to man; while others, like Toggia and Gilbert, assert that it is communicable to the sheep. That this affection has not been recognized among us may be due to a difference in the environment which modifies the infection, or, perhaps, to the fact that men and pigeons do not live so much in common here as in Italy and India. Such an occurrence under Italian skies should, however, demand a careful investigation into the reality of such infection in our own States, and especially the Southern ones, during the prevalence of an epidemic of small-pox, so that whatever danger arises from this source may be detected and guarded against.—Prof. James Law in *Bulletin of National Board of Health.*

Correspondence.

PHYSICIAN AND PHARMACIST.

Counter-Prescribing—Substitution and Repetition of Prescriptions—The Dispensing Question.

To the Editor of The Medical Record.

Sir:—In your remarks on counter-prescribing and the relations between druggists and physicians, I was interested in that part which referred to the practice which some druggists have of informing their customers of the nature and contents of the prescriptions. I admit that this is often done by pharmacists, but is, perhaps, oftener done by the physicians themselves. From what I can see, it appears to be the fashion for physicians to tell their patients what medicines are prescribed. What is the result? The patients get the medicines themselves, without asking the physician. As I am one of the Othellos, I have enough of objection against being left out in the cold without any occupation, to protest against this method of doing things. Here, for instance, is a patient who has a touch of the ague. He knows that his doctor prescribed quinine for him before for the same trouble, and that knowledge serves him in good stead when he wishes to prescribe for himself. And this patient is not like the hero in the song—

> "Who gives his neighbors none,"

for he distributes his knowledge of the remedy to all his acquaintances. So it is with other fashionable remedies. Thanks to the medical profession, it is not necessary for the druggist to prescribe bromide of potassium for sick headache, or pepsin for indigestion, or cod-liver oil for phthisis, or hypodermic injections for pain. All this is demoralizing. When a patient says that he thought that he ought to take quinine, and that drug is prescribed, it is very flattering to his judgment to know that he agreed with his doctor; but there is something disagreeable, in a business sense, in paying for advice which was anticipated. Hence, we cannot blame him for regretting that he had called the doctor at all.

Let any physician, in any community not entirely in the backwoods, produce a hypodermic syringe, and ten chances to one the patient will ask if he (patient) is to have some morphine. I do not mean to say that there should be any dreadful secrecy about this business of prescribing; but this loose way of speaking of remedies before patients conveys the impression that the remedies are not of much account, can be used by any one, repeated as often as necessary, and that the science of therapeutics is nothing more than the fitting of pegs in holes already made for their reception. Even if the physician does not always enlighten the patient and satisfy his curiosity, the obliging druggist is ready to supply what would seem to be the necessary information. Allow me, sir, to protest against this practice, as injurious to both patients and physicians.

As things are going on at present, there seems to be but one way of meeting the difficulty, and that is for each physician to take his individual patients in his own hands, dispense his own medicines, and keep his own counsel.

Very respectfully yours, A Junior M.D.

To the Editor of The Medical Record.

Sir:—As a pharmacist, I would naturally incline to an exclusive prescription business, and would gladly follow out the suggestions contained in the article "Pharmacist and Physician," but such are impossibilities. We must all admit that the argument in favor of so doing is not altogether on the side of the prescriber. The pharmacist must live as well as the doctor. But the truth is, there are few, if any, pharmacists in this city who can live on a prescription business alone. The profits are not so great as they seem, and with the competition of a pharmacy on every second or third corner, said profits are fast dwindling to an insignificant figure. Aside from the latter condition of competition, which, with such significant facetiousness, is called the life of trade, we have several other drawbacks. There is the heavy rent for an inviting shop, clerk-hire for night and day work, gas-bills, etc. In order to get money to pay for this, there must be some way of making it besides trusting to a score or two of prescriptions that may or may not be brought in. The patent medicine trade is a necessity. The people will have their pain-killers, blood-purifiers, and the like, the medical profession to the contrary notwithstanding. Each of these so-called remedies as an article of trade commands a profit, and there does not seem to be any good reason why they should not be sold. The pharmacist does not recommend their use more than does the physician. I do not take up a medical journal without seeing certificates from Prof. this and Dr. that, attesting the wonderful properties of some so-called new preparation, how it surpasses everything else for the treatment of particular diseases, etc., etc. Pharmacists do not go quite so far as that when they simply sell the articles. Physicians really create a demand for many of the articles for the sale of which we are sometimes blamed by the medical profession. The latter may not go so far as to give a certificate for baby soothing-syrups and other like nostrums, but some of the leading lights stop very little short of so doing. I have in my prescription-books, prescriptions ordering not only proprietary but really patent medicines, and that by men who occupy leading positions among their brethren. I ask, is it more harmful to supply a demand for these articles than it is to create the demand?

To go back to the living by a purely prescriptive business, there is another good reason why it is becoming less and less profitable. Especially is this so compared with twenty-five or thirty years ago. Physicians do not prescribe as much medicine as they did formerly, nor does it seem to them to be necessary to use a number of different ingredients in one recipe. And when a number of ingredients are wanted, the accommodating wholesale manufacturer comes in to meet the demand, and is ready to supply the physician with pills to order by the thousand at the nominal rate of machine labor, with the formula and dose on each bottle. The same is the case with single remedies, to which the physician of the present day is peculiarly inclined.

I find also that physicians, as a class, are not given to help the druggists as they should. I do not pretend to prescribe for a physician, because I know it is unfair to physician and to patient; but the physician thinks he does ordinary justice to his patient when he tells the latter that he can add so much water to the salt, or buy the powder in quantity and divide it into so many parts, so that the pharmacist may not make a living. As I said before, and as you freely admitted in your editorial remarks, there are two sides to this question.

Very truly yours,
B. A. C.

New York, August 8, 1880.

To the Editor of The Medical Record.

Sir: — Your remarks in the last two numbers, on the relations between druggist and physician, were so well taken that I am tempted to endorse that part of them referring to comments on prescriptions, by reference to my own experience.

Not long ago I prescribed some Hoffman's anodyne for a nervous old lady, and indicated the dose at the end, with the usual "Use as directed." The next morning my lady drove to my office and in great consternation asked if that was not very strong medicine that I had ordered her. I assured her to the contrary, when she told me that her gravest suspicions were aroused by the druggist (a reputable one on Broadway) asking her coachman if the medicine was for the horses! Naturally she associated horse medicine with some extra strength. The coachman could not give any more direct answer than that Madame was sick, and the medicine was fixed up. When she showed it to me it looked as if the druggist thought it was intended for the horses, as it was murky from the addition of water, and was anything but an inviting preparation. I was compelled to send her to a pharmacy in which clerks are employed who do not ask useless and senseless questions, and I also take care that none other of my patients have their medicines put up by the compounder of horse medicines. If I were to publish the name of the man who keeps the cattle establishment it would cause half the prescribers on Murray Hill to open wide their eyes in wonder; but, for the credit of a leading member of the College of Pharmacy, I abstain. Similar instances of indiscretion must have occurred to others.

I have frequently been the victim of another species of officiousness on the part of the apothecary. I had a lady once who had a whimsical notion that quinine entered her bones and that she could not take it without "harm to her constitution."

It so happened that there was such a strong malarial element about her case that quinine in full doses was called for. I did my best to leave the question of quinine an open one, assuring her that the medicine would not harm her, etc. What was my astonishment to be the victim of a scene in my office by being charged with misrepresentation in trifling with a delicate woman's constitution, etc., all because the officious simpleton who made up the prescription volunteered the statement that there was not only quinine in the mixture, but very full doses too. This was not in the horse medicine shop, but it was in an establishment equally pretentious and high-priced.

* * *, M.D.

New York, August 10, 1880.

To the Editor of The Medical Record.

Sir:—I have read with much pleasure the admirable articles "Physician and Druggist," and although I cannot agree with you in some particulars as to the best way to mend matters, I am certainly convinced that the advice given is generally correct. I am, perhaps, a little too radical in my methods of action; but I believe with the old Scotchman "that honesty is the best policy, because I have tried *baith*." I mean honesty to one's self. In former days, when full of ambition to get into practice, I associated myself with a drug store, that is, for the sake of writing all the prescriptions for the store, I was allowed to have my sign displayed there and to have office hours. I soon found, however, that the apothecary made a great deal more money than I did; but, as I was getting into a business, I did not mind it much. Finally, I became so situated that I had an office of my own and many of my patients would get their prescriptions filled at the old place. I could not object to this, inasmuch as everything seemed to be done in a business-like way.

Soon, for a very good reason that my actual practice did not warrant it—but which was not so understood by my former employer (?)—there did not go so many prescriptions from me to the "old stand;" consequently, to keep the proper end up the proprietor began to prescribe himself, and, as he could do it much cheaper than I could, it was not difficult to see who could be the fittest in the survival. A generous rivalry sprang up between us to benefit the public, and the end of it was I moved away. Not because I did not want to benefit the people; but because I could not love my neighbor druggist as myself. I was well aware that a "rolling stone" was not likely to "gather moss;" but the grade was the wrong way with me and I yielded to the inevitable. I may say that those were the days when polypharmacy showed skill and before steam-engines mixed pills.

When I obtained my new office I turned over a new leaf. I cultivated merely a nodding acquaintance with the pharmacists in the neighborhood and dispensed my own remedies. I do not make any profit out of my medical stores; in fact, I am willing to throw them in with the advice, preferring to lose my medicines rather than my patients. And then, I am not annoyed by having my prescriptions repeated and repeated without my consent. Many of my youthful prescriptions are going the rounds to this day; but I am not now accountable—to use a rather strong figure, perhaps—for unchaining the tiger; my only concern is that the poor compounder will in the end have more to answer for than he dreams of.

I do not mean to say that all the medicines I prescribe are dispensed by me, but the larger majority are. It would surprise most physicians who have not given attention to the subject to know how well and how satisfactorily the plan works. Not only is there an opportunity for giving the particular preparation you desire them to take, but generally in a very convenient and pleasant form and with virtually no expense to the patient. Again, if it is necessary to administer a placebo, it is a matter entirely between physician and patient.

All this takes time, it is true; but no more time than is usually spent in one's office in general outside converation with the patient or in making an extra entry in your note-book.

I am, with great respect,
S.

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THE TWO KINDS OF VIVISECTION—SENTISECTION AND CALLISECTION.

To the Editor of The Medical Record.

Sir:—Is it not time for the distinct verbal recognition of the difference between painful and painless experimentation upon animals?

All well-informed persons are aware that the vast majority of vivisections, in this country at least, are performed under the influence of anæsthetics; but the enthusiastic zoölaters, who desire to abolish the objective method of teaching physiology practically, ignore this fact and dwell chiefly upon the comparatively infrequent operations which are attended with pain.

Having read the arguments upon both sides and had some correspondence with leaders of the anti-vivisection movement, I have been led to think that the discussion may be simplified and a right conclusion sooner reached, if we adopt new terms corresponding to the two kinds of experimentation.

To use words with no warrant of ideas may be foolish, but it is not necessarily a mark of wisdom to refrain from the employment of terms which have a real significance.

Let us consider an analogous case: aside from color and size, the *cat* and the *leopard* are almost identical, and are commonly regarded as two species of one genus. Suppose a community to be unacquainted with the cat, but to have suffered from the depredations of the leopard, which they call *felis*. Now, suppose some domestic cats to be introduced and to multiply as is their wont. In the first place, for a time at least, it is probable that the same name, *felis*, would be applied to the smaller animal, with perhaps a qualifying word. In the second place, should there be certain persons, both devoid of interest in the cats and filled with pity for the mice devoured by them, is it not likely that they would endeavor to include the cats under any ban which might be pronounced against the leopards? Would they not be apt to succeed, especially with the more ignorant and impressionable members of the community, so long as they could assert without contradiction that the "mouse-eater" was only a *felis* upon a smaller scale? Would not even the reputation of the leopards suffer by reason of the multitude of the cats thus associated with them? In short, would full justice be done to either animal until the practical differences between them should be admitted to outweigh their likeness of form and structure, and be recognized by the use of distinctive names?

In like manner there are those who ignorantly or wilfully persuade themselves and others that all experiments upon animals are painful because some of them are now, and most of them were in former times; also, that painful experiments are common because vivisection in some form is generally practised. It is all *vivisection*, and as such it is "cruel, revolting, or brutalizing."

Having waited long in the hope that some candid discussion of the whole subject might contain the needed terms, I venture to suggest that painful vivisection be known as *sentisection*, and painless vivisection as *callisection*. The etymology of the former word is obvious; the distinctive element of the latter is the Latin *callus*, which, in a derived sense, may denote a state unknown, strictly speaking, to the ancients.

Some idea of the relative numbers of callisectionists and sentisectionists may be gained from the fact that I have been teaching physiology in a university for twelve years, and for half that time in a medical school; yet I have never performed a sentisection, unless under that head should be included the drowning of cats, and the application of water at the temperature of 60° C. (140° F.), with the view to ascertain whether such treatment would be likely to succeed with human beings.

I think that even elementary physiological instruction is incomplete without callisection, but that sentisection should be the unwelcome prerogative of the very few whose natural and acquired powers of body and mind qualify them above others to determine what experiments should be done, to perform them properly, and to wisely interpret the results. Such men, deserving alike of the highest honor and the deepest pity, should exercise their solemn office not only unrestrained by law, but upheld by the general sentiment of the profession and the public.

BURT G. WILDER, M.D.,
Prof. Physiology, etc., Cornell University, Ithaca, N. Y.

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OLEUM TEREBINTHINÆ IN CANCER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR:—Several items have appeared of late in regard to the use of oleum terebinthinæ and other turpentines in cases of cancer. In two cases that have lately come under my observation I have used the oil of turpentine pretty thoroughly, and while deriving no more general effect from it than from any other remedy in the disease, its ameliorating effects over certain features are such as to make it worth recording.

In a case of scirrhous breast, which was not removed, a poultice was applied, over which was poured ol. terebinth.; it was also given internally. The incipient ulceration was checked, and the disagreeable odor of cancerous ulceration entirely obviated. From this I was induced to try it in a case where extensive ulceration had taken place in the tumor, recurring after the breast had been removed. Salicylic and benzoic acids had been used without effect. Turpentine was applied freely, which at once arrested the ulceration and destroyed all fetor. In both cases death resulted from the extension of the disease to other organs; but one unpleasant feature was removed.

In a case of cancer of the uterus, now under observation, tar-water was used as an injection, which seems also to act as a disinfectant, but not so effectually as a turpentine emulsion which is now being applied.

Yours truly,
P. J. FARNSWORTH, M.D.
CLINTON, IOWA, July 20, 1880.

◆

THERAPEUTIC EFFECTS OF MODERATE ALTITUDES IN PULMONARY CONSUMPTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR:—In the management of phthisical cases of whatever variety, the most important factor is to be looked for in climate.

The therapeutic value of high altitudes, though as yet not universally acknowledged, is forcing itself upon the attention of the profession. Still, the opinions of specialists are widely divergent upon this point. The mild southern climates, the sea-shore, life on islands, the cold and comparatively dry climate of Northern States—like Minnesota—all have their advocates and their statistics. There are authorities also who claim for *medium* altitudes, irrespective of proximity to the ocean or the degree of latitude in which a locality is found, the same therapeutic value in the management of consumption as that of high altitudes.

It will be my endeavor to show some of the fallacies of this faith, more especially as regards low or medium altitudes.

Success in the treatment of pulmonary phthisis is claimed for such mountain regions as the Orange range in New Jersey, the Ramapo valley, the Adirondacks, a spur of the Cumberland mountains in Tennessee, and others of limited altitude. Last year I was interested in reading Dr. Loomis's paper upon the "Therapeutical Value of the Adirondack Region in Cases of Pulmonary Phthisis." Since the above-named region is a fair representative of lesser altitudes and their effects upon chronic pulmonary processes, it will serve as an illustration of facts equally applicable to all. What I wish to demonstrate is that *symptoms* only are benefited, and then only after a very protracted residence, while the physical condition remains almost unchanged.

In enumerating the advantages of the Adirondack region, the amount of rain-fall is claimed to be of little importance, provided the external configuration of the soil is satisfactory. This is as true as it is important. Unfortunately, however, this only holds good where we have the presence of a sandy, porous soil and a moderate amount of rain-fall. Meteorology teaches us that "the total evaporation from the earth's surface in a year must be *equal* to the total precipitation in the form of rain, snow, dew, etc."

In the Adirondack region we have, in addition to the rain- and snow-fall, the presence of numerous lakes of various dimensions, and, what is of greater moment, sufficiently close proximity to the Atlantic ocean for that region to be affected by its moist currents. The above-quoted article goes on to say that "the peculiar *dampness* which acts most unfavorably is not usually present in those localities where there is the gratest rain-fall, nor is it present because large bodies of water are in close proximity."

Now, the same conditions which cause a rapid evaporation from the earth's crust also tend to a somewhat lesser evaporation from the surface of lakes and creeks.

It is admitted that the Adirondack region has a moist, cool climate; that the rain-fall is above the average for other parts of the State, and about fifty-five inches; that there is considerable rain until about the middle of June; that in summer nights heavy dews fall; that during the winter there is a preponderance of cloudy days and snow-storms, the sky being constantly overcast, and there is no preponderance of clear days at any season. I agree with Dr. Loomis and others that *pure* air is necessary to diseased lungs. But that it does not matter whether that pure air is hot or cold, damp or dry, is going too far. The accepted theory is that of Dr. C. T. Williams, of England, to the effect that, taking collectively all forms and degrees of phthisis, dry climates are most likely to arrest the disease.

Is pure air to be found in regions such as are described above? To insure the presence of unadulterated pure air we require the most unobstructed effects of the sun's rays—above all, unobstructed sunlight. These effects are to be met with only at high altitudes free from the moist ocean currents. Here alone do we find perfect freedom from dust, vapors, or noxious gases, representing, in their turn, solids, fluids, and gases.

Turning our attention to the results attained in regions of limited altitude, such as the Adirondacks, we may be permitted to take Dr. Loomis's report of twenty cases as a fair type of what is actually accomplished by prolonged residence in such regions.

It would lead us too far to analyze individual cases as reported from various localities by different authors, the results being essentially in accordance with those reported by Dr. Loomis.

Of twenty cases ten recovered, six were improved, two were not benefited, and two died. Not an extraordinary percentage of deaths. But, when we come to the "recovered" and "improved," a careful perusal of these cases will establish the following facts:

1. Two only lost their slight catarrhal infiltration, which in both cases is reported to have been too limited to produce any appreciable dulness on percussion.

2. In all cases (with the exception of the above two) their recovery or improvement is based upon *gain in weight* and *loss of cough.* In the few cases where a physical examination of the patient is noted down as having been made after his stay in the Adirondacks, the important admission is made that active symptoms remained. "Localized bronchial râles," "well-marked pleuritic creakings," are signs of conditions not only likely to cause successive inflammatory conditions, but are progressively active signs themselves.

3. The length of time required for patients to lose their most active symptom, viz., cough, thereby proving the absence or reduction of muco-purulent secretion, is a point for consideration. In order to reduce the amount of secretion from the mucous membrane of the respiratory tract, whereby we get rid of fever and night-sweats, and to gain a few pounds in weight appears to have taken all the way from two to eleven years.

The legitimate conclusions to be drawn from the above facts, in connection with other details in the above twenty cases, are as follows:

1. As regards *gain in weight.* Dr. Brehmer, of the Goerbersdorf Sanitarium, has observed and proven that gain in weight bears no relation whatever to the actual condition of the lung. I have long been convinced that a mere gain in adipose tissue (for this is what gain in weight amounts to) is a hinderance to the absorption of an infiltration, and *vice versa.*

2. *Loss of cough and expectoration* is never absolute and total where any infiltration remains. The lessening of the quantity of sputa and of the paroxysms of coughing diminishes, for the time being, chronic septicæmia, to which is due the fever.

3. But loss of cough, diminution of expectoration, and especially the much lauded gain in weight, may be attained by any change of climate different from the one the patient resides in. Yes, more than that. It is immaterial whether the patient changes from city or country to sea-shore, or *vice versa,* from the Atlantic coast to the Mississippi valley, north or south, as it is whether the change be from a cold to a warm climate, or from the level of the sea to moderate altitudes. The same amelioration of symptoms may be accomplished by residence in Florida, in the Carolinas, in the eastern part of Tennessee, in Texas, in Minnesota, in the Adirondacks, or upon the islands of the Pacific coast or West Indies.

Any more or less radical change will be followed by an amelioration of symptoms, accompanied by an increase in adipose tissue, while the physical signs will remain almost undisturbed.

4. This much being allowed for moderate altitudes, and according strictly with the results of the cases quoted above, it is evident that it requires higher altitudes to bring about absorption and cicatrization of pulmonary infiltrations. The proper altitude is the one at and above which consumption is not met with. It varies with latitude, and, in accordance with the shape of our globe, is found to increase as we approach the equator from the north or south.

J. Hilyard Tyndale, M.D.

Manitou, Col.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August 7, 1880, *to August* 14, 1880.

Havard, V., Capt. and Asst. Surgeon. To proceed to Ft. Clark, Tex., and report to the Comd'g officer 1st Inf'y, for duty with his command. S. O. 158, Dept. of Texas, August 8, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending August 14, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Aug. 7, 1880.	0	15	20	1	11	30	0	0
Aug. 14, 1880.	0	6	22	4	6	36	0	0

Cruelty to Shop Women.—In concluding an editorial upon the cruelty exercised by shopkeepers in keeping shop-girls so many hours on their feet, the *Lancet* says of the ladies who go shopping: "We fear the number of feeling women is small. If ever there was a proof that the feminine nature is *not* gentle, or the sympathies of woman keen and active, the perpetuation of this grievous wrong is a proof that cannot be gainsaid. To obtain a wider selection of materials for a dress, or see the newest patterns of robe or mantle, a 'lady' will sanction by her patronage and aggravate by her exacting demands on the strength and endurance of those who wait upon her, the 'cruelty to women' we are striving to put down."

Carbolic Acid Powder.—The formula for the carbolic acid powder in use at the Mt. Sinai Hospital is:

℞	Acid carbolic, parts..........	25
	Rosin, "	60
	Stearin....................	15

M.—Add plaster-of-Paris, parts, 700.

In a former issue, the proportion of stearin given was .15 parts.

The Oil of Fennel is the last thing offered as a deodorizer of iodoform. Twenty minims of the oil are to be added to a drachm of the iodoform.

The Conference on Vital Statistics.—In a supplement to the *Bulletin of the National Board of Health* for July 3d, the proceedings of this Conference, held in Washington May 6th, are given in full. Twenty-four delegates were present, one-half of them being from New York and New England. The topics discussed were: The Standard Nomenclature; The Basis of complete Individual Records as Statistical Hints; How to Secure Numerical Completeness; The Periodical Summaries, Statistical Abstracts, Bulletins and Reports; Methods of Revision and Perfecting Individual Records.

In regard to the standard nomenclature, the following resolution was passed:

First. That the nomenclature published by the Royal College of Physicians of London be provision-ally adopted, with the understanding that in so far as names of diseases or pathological conditions are not contained therein each one shall be at liberty to use such name as he deems best.

Second. That a committee of five be appointed by the Chair whose duty it shall be to indicate the most urgently needed additions to said nomenclature at the present time, and that this committee shall be instructed to confer with the committee of the Royal College of Physicians in charge of the revision of said nomenclature with reference to obtaining a uniform system, both for Great Britain and her colonies, and in this country.

It was also voted that this committee bring the matter to the attention of the American Medical Association, and communicate with the different registrars, State and municipal, throughout the country upon the subject, requesting them to join in the adoption of this nomenclature in accordance with the resolutions passed.

As supplementing the above action, another resolution was passed as follows:

"*Resolved*, That for purposes of classification the general diseases be grouped together as proposed in the nomenclature just adopted, and that local diseases be arranged alphabetically by systems and organs."

In regard to the question of paying physicians for returning vital statistics, the Conference did not think it wise to commit itself, although admitting in general that such a measure would be just.

The committee on the minimum amount of information that should be required in reports of deaths, gave the following as the necessary items:

1. Date of death. 2. Name of the deceased. 3. Age, in years, months, and days. 4. Particular location of death. 5. Sex. 6. Color, and with color the race, as Indian, Mongolian, etc. 7. Whether married, single, or widowed (divorced). 8. Occupation. 9. Birthplace of deceased. 10. Birthplace of parents of the deceased. 11. Place of burial. And in addition to the above the cause or causes of death to be given particularly, as follows: Remote, immediate, and concurring causes.

The Conference discussed the other questions presented to them, passed resolutions, and drew up forms for the better securing of vital statistics. The adjournment was *sine die*.

Anæsthesia by Rapid Respiration.—Dr. Benjamin Lee relates in the *Phila. Med. Times* several cases in which an analgesic effect was produced by rapid and forcible respiration. It is a method that has been employed successfully for some time by Dr. Bonwill, a dentist of Philadelphia (*vide* p. 211). Dr. Lee's cases were those in which abscesses were opened or teeth extracted. Analgesia was not produced in every case, but it was brought about often enough to show that the effect is a genuine one. The respirations have to be kept up for a minute or more.

Skin-grafting.—A number of cases of skin-grafting have recently been circulated through the medical journals, and surgeons seem to be vying with each other to see who can report the most remarkable one. The last is that of a young woman who has been a patient in St. Luke's Hospital and whose history has already been published in The Medical Record. In 1874, while working in a factory, the girl had her scalp torn from the calvarium. Not long after she came to St. Luke's Hospital, in which institution she has been most of the time ever since. The wounded surface, which had begun to cicatrize, was stimulated so as to secure good granulations. Grafts were then applied. In the ensuing four years, 14,000 grafts are said to have been placed on the wound. Only a small proportion kept their vitality, but these have been enough, at last, to furnish a skin for the once denuded cranium.

American Pharmaceutical Association.—The twenty-eighth annual meeting of this association will be held at Saratoga, New York, Tuesday, September 14, 1880.

An International Congress of Charity Commissioners will be held in Milan, Italy, from August 29th to September 4th, next. Invitations have been sent out to all the principal cities of the several nations of the earth, asking them to send representatives.

The Twenty-eighth Annual Meeting of the Maine Medical Association was held at Portland, June 15th, 16th, and 17th, and seems to have been a very successful affair. In the inaugural address of the President, Dr. S. C. Gordon, the present law in regard to dissection was discussed, and its injustice to medical science shown. As it now stands, the physicians of Maine can get material for dissection from only two sources: a person may will his body to the dissecting-room, and the bodies of persons dying in penal institutions can be had for dissection, provided the criminal has not made a request for internment. Practically nothing comes in from either of these sources, and the physician who wishes material for dissection must either break the law himself in order to get it, or must hire some one else to do it for him.

Acting upon the suggestion of the President, the Society appointed a committee to try and secure legislation upon the matter.

The annual oration of Dr. O. A. Horr treated of the progress of medicine in the State, and dwelt especially upon the need of a board of health. This is not likely to be obtained at present.

About a dozen papers were read, most of them being of scarcely average merit.

The officers for the ensuing year are as follows: President, Dr. W. W. Greene; Secretary, Dr. C. O. Hunt; Treasurer, Dr. A. S. Thayer—all of Portland. The society adjourned to the third Tuesday in June.

The International Medical Congress.—The committee having this matter in charge have nearly perfected their arrangements. Sir James Paget has been nominated President of the Congress. There will be fifteen sections, of which the chairmen are: Physiology, Prof. Michael Foster; Anatomy, Prof. Flower: Pathology, Dr. S. Wilks; Medicine, Sir Wm. Gull; Surgery, John Eric Erichsen; Obstetrics, Dr. McClintock; Pediatrics, Dr. West; Mental Diseases, Dr. Lockhart Robinson; Ophthalmology, Mr. Wm. Bowman; Otology, Mr. W. B. Dalby; Dermatology, Mr. Erasmus Wilson; Diseases of the Teeth, Mr. Edwin Saunders; State Medicine, John Simon; Military Medicine and Surgery, Surgeon-General Longmore; Materia Medica and Pharmacology, Prof. T. R. Fraser.

The General Medical Council and Preliminary Education.—The General Medical Council of Great Britain, which has charge of the medical affairs of that nation, began its annual session in London, July 7th, Dr. Acland, its president, being in the chair. Most of the time during its first few days of meeting was devoted to the subject of preliminary education. An elevation in the standard of the preliminary examinations was thought to be much needed. The following schedule was finally adopted as representing the minimum requisite for matriculation in a medical school.

1. English Language, including Grammar and Composition; 2. English History; 3. Modern Geography; 4. Latin, including translation from the original, and Grammar; 5. Elements of Mechanics, comprising: (*a*), Arithmetic, including vulgar and decimal fractions; (*b*), Algebra, including simple equations; (*c*), Geometry, including the first two books of Euclid; 6. Elementary Mechanics of Solids and Fluids (this subject can be passed either as a preliminary or at the first annual examination); 7. One of the following optional subjects: (*a*), Greek; (*b*), French; (*c*), German; (*d*), Italian; (*e*), any other modern language; (*f*), Logic; (*g*), Botany; (*h*), Elementary Chemistry.

A motion was also agreed to: "That it is desirable that intending candidates for the medical profession should, before they enter upon the purely medical curriculum, have been instructed in the rudiments of Natural Science, physical, chemical, and biological."

The Council also discussed the subjects of ophthalmological and obstetric instruction, and recommended that these branches form part of the regular curriculum.

DEATH OF DR. LUCAS V. NEWTON.—We regret to announce the death, on July 10th, of Dr. L. V. Newton, editor of *The Druggists' Circular and Chemical Gazette.* Dr. Newton was born in 1809, at Griggstown, N. J. He spent his early life in journalistic pursuits, not graduating in medicine until he was twenty-six. Dr. Newton led for a time a somewhat roving life, practising medicine in Philadelphia, London, Virginia, in New Orleans during the yellow fever plague of 1848, and finally coming to New York. In 1858 he became editor of *The Druggists' Circular*, then having but a small circulation. By his literary and scientific accomplishments and his business capacity he made his paper one of the best pharmaceutical journals in the country. It remains as the best monument of an able and widely esteemed man.

AORTIC COMPRESSION BY THE RECTUM was performed successfully by Mr. Richard Davy a short time ago. The aorta was compressed for four minutes and pulsation stopped in the femorals. The rectum sustained no damage. The operation performed during the compression was a uterine one.

THE TEMPERATURE OF THE BREATH.—A good deal of curiosity is being expressed in regard to the apparently high temperature of the breath, under certain conditions. If we take an ordinary clinical thermometer, wrap it up pretty tightly in several folds of a silk handkerchief, apply it closely to the lips and breathe gently through the silk just over the bulb of the thermometer for about five minutes, always making the inspirations through the nose, we shall find that the thermometer will show a temperature ranging from 101° to 108°, or even 109.5°. Dr. E. S. Clark first called attention to this phenomena in the *Medical Herald.* The facts are corroborated by Dr. Dudgeon in the *Medical Press and Circular.*

PROFESSOR HUMPHREY ON THE EVOLUTION OF MAN.—In Prof. Humphrey's Rede lecture on Man, delivered a short time ago at the University of Cambridge, he pleaded for long and patient investigation, especially in coming to the discovery or comprehension of any process, whether of natural selection or any other, by which the large cranial cavity of man can have been evolved in early men. He gave full weight to the argument for the size of the brain at birth, and the perfection of the lungs at the same period. At any rate, the brain of primitive man appeared to have been structurally fitted for higher duties than they were ever called upon to perform. His brain was prophetic of his future. Ability is to be measured by the power to deal with the material before us, and thus it is doubtful whether the ability of the present was greater than that of preceding generations. Progress did not necessarily imply improvement, and increased means did not imply greater power to be wielded with better effect. The physical capability he thought long preceded functional activity, and man's advance to civilization was the result of the response of his nature to his conditions.

THE NEW YORK STATE BOARD OF HEALTH has made out its forms for the registration of marriages, births, deaths, transit of bodies. These have been forwarded to the boards of supervisors, clerks of towns, villages and school districts, and local health boards in the State, with directions for their use.

The next regular quarterly meeting of the Board will take place in New York city, August 18th.

THE NATIONAL MEDICAL LIBRARY, a work which has been in course of preparation nearly twelve years, is now in the hands of the printer, and is expected to be ready for issue in two or three weeks. The second volume will follow without delay. The completed work will make about ten volumes, royal octavo, of 1,000 pages each, and notice is given that only a limited number of copies will be available for distribution, probably not more than enough to supply the various public libraries and those persons who have been large contributors to the library. The public printer will, however, supply all who may order in advance and remit the cost of publication, estimated at $2.50 a volume, with 10 per cent. added, according to law.

The work is much more than its title indicates, being, in fact, a key to medical literature everywhere, arranged for convenient reference both to subjects and authors. It will thus become an index to every physician who owns a library, as well as to the medical portion of the public libraries in his neighborhood.

The National Medical Library now contains more than 50,000 bound volumes and 60,000 pamphlets, with complete files, for a long series of years, of nearly all the medical periodical publications in the world. Plans have been drawn for a new library building to be made of brick, and to cost $250,000, and the matter will be urged upon the attention of Congress at its next session, and an effort made to secure an appropriation for the preliminary work upon the new building.

FOR THE REMOVAL OF TAN AND FRECKLES, Dr. J. Nevins Hyde endorses the formula of Prof. White.

℞.	Hydrarg bichlorid..............	gr. vj.
	Acid. muriat. dil................	ʒ j.
	Aq..............................	℥ iv.
	Alcohol,	
	Aq. rosæ.....................āā	℥ ij.
	Glycerine......................	℥ j.

M. Apply at night, and wash off the skin with soap in the morning.

Growth of Human Hair and Skin.—Professor Moleschott has found that the average daily growth of the human hair amounts to .20 gramme (gr. iijss.). The loss of nitrogen in this way amounts to .0287 gramme (gr. ss.) daily. The hair grows faster between the ages of 18 and 26, when the amount is as given above. Between the ages of 32 and 45 the daily quantity is .14 grammes, or about one-third less. More hair is produced in summer than winter. Frequent cutting increases the rapidity of its growth.

Concerning the growth of nails, it was found that 1.825 grammes (ʒ ss.) were produced in a year in one case. The growth was more rapid in summer. Assuming that the whole epidermic surface measures 1,614 sq. metres, Prof. Moleschott estimates that there is a daily loss of 14.35 grammes (ʒ iijss.) of epidermis through unobserved desquamation.

Twelve Thousand Dentists find employment in the United States. They drive half a ton of gold annually into dental cavities.

The Alleged Deterioration of Humanized Vaccine Lymph.—In regard to this point, which has of late been much discussed, Dr. Henry Stevens, of the Local Government Board, England, who has probably vaccinated more children than any man living, says that he has found no ground whatever for the suspicion that humanized lymph has lost its true and original Jennerian character. Dr. Atlee, of Lancaster, Pa., says that, in an experience of sixty-four years, he has seen no evidence of change or loss of power.

Juvenile Smokers.—An English physician examined 38 boys, between the ages of 9 and 15, who were in the habit of smoking. Of these, 22 suffered from various disorders of circulation and digestion, palpitation of the heart, and more or less marked taste for drink.

Model Nursery.—The municipal authorities of Paris have decided to establish a model nursery in that city in connection with the children's hospital, to experiment with artificial nourishment. The direction of the institution is given to Professor Parrot.

Tea.—This was sold for £6 or even £10 per pound weight until the year 1657, up to which time it had only been used in England as a *regalia* in high treats and entertainments, or as a present to princes and grandees. But in the above year Thomas Garway first publicly sold tea in the leaf, and "a drink made according to the directions of the most knowing merchants and travellers in eastern countries." Many noblemen, physicans, merchants, and gentlemen, resorted to his place in Exchange Alley, near the Royal Exchange "to drink the drink thereof."

In 1658 tea was widely advertised thus for sale, as: "That excellent, and by all physicians approved *China drink*, called by the Chineans Tcha, by other nations, tay or tee, is sold at the Sultana's Head, Coffee House, by the Exchange, London."

There was no tax then on tea or coffee when imported, but made up into a drink it was charged with a tax of 8 pence a gallon.

The drink called *cophee*, was also advertised in 1657 to be sold in the morning and at three o'clock in the afternoon, in Bartholomew Lane.

Tea with milk has been called the "fragrant lymph."

Cibber says: "Tea! thou soft, thou sober, sage and venerable liquid; thou female tongue-running, smile-compelling, heart-opening, wink-tipping cordial, to whose glorious cheering I owe the happiest moments of my life.

"The Muse's friend, tea, does our fancy aid,
Repressing vapors which the head invade."

Bishop Burnet drank sixteen cups every morning. Dr. Johnson avowed himself a hardened and shameless tea-drinker, who diluted his meals with tea, amused his evenings with tea, solaced his midnight with tea, and welcomed the morning with tea, and of whom it has been said: "*Tea veniente die, tea decendente bibebat.*"

Indeed, the doctor, who loved a ponderous joke, once said to a lady who accused him of drinking too much tea: "*Nec cum* TE *nec sine* TE, *vivere possum.*"

Bryan loved his tea with rum, according to the advice of Mrs. Gamp to "combine the milder infusion with the benignant influence of distilled waters."

Pepys drank his first cup of tea, "a China drink," as he calls it, Sept. 25, 1660, and his second in 1667, when on coming home, he found his wife making tea, "a drink which Mr. Pelling uses."

Dr. Johnson's tea-pot held more than three quarts. His tea-kettle had no time to cool, for with tea he solaced the midnight hour, and with tea welcomed the morn.

Mrs. Elizabeth Carter was such a diligent collector of tea pots that she left over 300, each of which possessed some traditionary interest.

Sugar.—Sugar-cane had been grown in Sicily from the year 1148; it was imported into Madeira in 1419. About the year 1503 the art of refining it was discovered by a Venetian, before which time the juice was used as it came from the cane. In 1526 it was imported from Spain by Bristol merchants. In 1553 a sugar-loaf weighing 7 lbs. was considered a beautiful present.

Coca as a Remedy for the Opium Habit, suggested by Dr. Palmer, in the *Louisville Medical News*, has received an endorsement from Dr. J. G. Core, who has used it with good results in a very old and obstinate case.

The Death-Rate from Cancer has increased at the rate of four hundred per cent. in London, England, and in Philadelphia, during the last sixty-five years.

Books and Pamphlets Received.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-second Annual Session. Baltimore: J. W. Borst & Co. 1880.

Proceedings of the Connecticut Medical Society, 1880. Hartford: Case, Lockwood, & Brainard.

Transactions of the American Dermatological Association, 1879. New York: A. G. Sherwood & Co.

Fourth Annual Report of the State Board of Health of Wisconsin, 1879. Madison, Wis.: David Atwood.

Second Annual Report of the State Board of Health of Rhode Island, 1879. Providence: E. L. Freeman & Co.

Transactions of the Medical Society of the State of Tennessee, 1880. Nashville, Tenn.

Cholera Epidemics in Japan, with a Monograph on the Influence of the Customs and Habits of Races in the Prevalence of Cholera. By D. B. Simmons, M.D., Shanghai.

Original Communications.

A
NEW ASPECT OF FACIAL PARALYSIS.

By THOMAS W. POOLE, M.D.,
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The following considerations are designed to show that the effects of paralysis of the facial nerve, on the muscles of the face, are of a different character from what they are reputed to be; and that here, as elsewhere, there is no exception to the doctrine that the true functions of nerve-force is to restrain, or inhibit, the property of contractility in muscle.

It is a curious fact that, "owing to the great size of the velum pendulum palati, a horse is unable to breathe through his mouth" (Strangeway's "Vet. Anat." p. 209). As a consequence, respiration is carried on in this animal through the nose; and when both his facial nerves are cut or paralyzed, "the nostrils immediately collapse, and the animal dies by suffocation" (Bernard, quoted by Dr. Dalton, "Phys.," p. 458).

Sir Thomas Watson, in detailing the effects of paralysis of the right facial nerve in the housemaid, Jane Smith, says: "When she tried to snuff in air through her nose, not being able to keep the right nostril stiff and open, its sides came together, and no air passed up on that side" (see p. 366). From this it is evident that were the cavity of the nose the only channel of respiration, and were the nerves of both sides paralyzed, death from suffocation would be imminent in the human subject as well as in the horse.

Now, it is perhaps needless to say that paralysis of a motor nerve displays its results solely in muscular tissue. Neither mucous membrane, cartilage, nor fibrous tissue possesses contractile power in response to nerve-action. We are therefore necessitated to seek in some condition of the nasal muscles for the cause of the sinking in of the nostrils, on which the suffocation depends. If there were muscles within the nasal cavity which became greatly relaxed or flaccid when paralyzed, it might be supposed that the swelling out of the body of these might stop up the nasal tube, and in this way cause arrest of breathing. But there are no such muscles lining the nasal cavity; and besides, the obstruction does not come by a filling up of the nose within, but by "its sides coming together," as stated by Dr. Watson.

All the nasal muscles are external to the cartilages, are subcutaneous, and amenable to direct observation. So far as appearances indicate, these muscles are by no means in a flabby or even relaxed state. On the contrary, they give evidence of having an increase rather than a diminution of their normal tone. Dr. W. A. Hammond, writing of facial paralysis, says: "Among other symptoms, it is noticed that the ala nasi is depressed, and does not expand as air is drawn in through the nostril" ("Dis. Nerv. Syst.," p. 724). Something very similar to this occurs also in the general paralysis (including that of the facial nerve) as death approaches, and in death itself, in which obvious contraction of these muscles gives to the features that "pinched" or "sharpened" aspect known as the Hippocratic face, in which contraction of the compressor nasi presses the nostril downward and inward, leaving the nasal ridge more bare and prominent. Dr. Erasmus Wilson alludes to this "compressed state of the nares . . . . in the last moments of life, or in compression of the brain" ("Anat.," p. 179); but he adheres to the popular error of attributing this condition to "paralysis of the muscles," which cannot press in the nostril if they are mere flaccid fibres. To effect this requires that the compressor muscles shall overpower the influence of the dilators, an act which requires a certain degree of contractile power, and it is needless to say that this is not to be expected if the muscles are "paralyzed." It is true that, according to our anatomical text-books, the dilators of the nose are in greater number than the compressors; and even the compressor naris muscle is set down as being a dilator. It is probable that there is some mistake here, and that, owing to the insignificance of these muscles, their actual *rôle* has been imperfectly or erroneously interpreted. From some limited personal observations I find that I can compress my own nose by a voluntary act much more forcibly than I can dilate it.

To say that the ala of the nose falls in because the muscles whose function it is to dilate it are paralysed, is absurd, because the nasal cartilages are constructed and adapted for maintaining the nostrils open. In the condition under discussion there is no superincumbent weight to press them together, and it is certain if they were let alone, and not acted upon by any influence exterior to themselves, they would continue to remain apart. A merely passive condition of the muscles outside the cartilages will not account for the nostrils being thus pressed downward and together; and hence we are forced to conclude that, as in other cases where muscles are undergoing a deprivation of nerve-influence, their property of contractility is called into play, and the muscular fibres undergo a greater or less degree of contraction in proportion to their power. For it must be remembered that this "compressed state of the naris" is not a mere casual or accidental circumstance, but is to be regularly looked for, as "among the symptoms" of facial paralysis (Hammond, p. 724).

There is nothing at all absurd or incongruous in thus asserting the contracted state of the nasal muscles during nerve-paralysis; for has not Dr. C. B. Radcliffe, F.R.S., laid it down as one of his propositions, that "there is reason to believe that ordinary muscular contraction is associated with deprivation of nervous influence, and not with a contrary state of things"? Nay, further: "that the power of muscular contraction is inversely related to the amount of nervous influence supplied to the muscles from the great nervous centres"? (see pp. 95, 100). These propositions are based upon the results of physiological experiments, which cannot be quoted here, but which have never been discredited. It is no more surprising that the muscles of the nose or face should pass into contraction in paralysis of the facial nerve, than it is that the muscles of the œsophageal tube should exhibit vigorous contractions after section of its pneumogastric branches, expelling the food swallowed by "a peculiar kind of regurgitation . . . . a sudden antistaltic action of the parts" (Dr. Dalton's "Phys.," p. 473). See, also, Dr. M. Hall's demonstration of the active contractility of the œsophagus "after all its nerves have been divided" (Dr. Carpenter's "Hum. Phys.," p 404). These are results wholly at variance with the alleged paralysis of the œsophageal muscle, in which case it would be a mere flaccid tube, incapable of resisting or expelling its contents.

The state of contraction thus shown to be naturally expected, and actually to occur, in the nasal muscles from paralysis of the portia dura, may properly be regarded as present also in the larger facial muscles while equally undergoing a deprivation of nerve-force. Indeed, it is freely admitted by the authorities, that while, in some cases of facial paralysis, "scarcely any distortion is present," and the actual condition of the muscles is necessarily obscure and misleading, in other cases "tonic rigidity" is sometimes present (Dr. Hammond, ib., pp. 77, 78). In the facial incompetency due to cerebral meningitis, we may have "paralysis or spasms" (ib., p. 231). That is, as I have elsewhere stated, in mild forms of paralysis, the nerve, while no longer subservient to the will, has still power enough remaining to inhibit the contractile power of the muscle and to prevent it from passing into a state of spasm. The condition of spasm and rigidity attends the graver forms of paralysis, in which the restraining influence of the nerve is wholly arrested. Again, in the general paralysis of suppurative encephalitis (which surely gives extensive scope for paralysis, from the pressure of effused serum and pus), "one side of the face is permanently contracted" (ib., p. 249). That in less severe forms of paralysis of the portia dura, the facial muscles are also contracted, though obscurely so, owing to the slighter contraction producing less prominently marked distortion, is a natural and legitimate conclusion from the foregoing facts, the correctness of which is fully proved by an examination of the individual muscles.

Of these muscles the orbicularis oris is the chief. This muscle occupies a peculiar position, as compared with muscles generally. Its attachments are chiefly to other muscles, and its lateral halves, considered separately, may be said to be attached to each other. It is elliptical in form, and it appears to the writer that the behavior to be expected of it, and the symptoms which follow when one lateral half is deprived of motor-nerve influence, are quite consistent with the idea that this lateral half has undergone a degree of contraction, subject to the restraints of the much less powerful muscles which influence it.

Thus, the "paralyzed" lateral half, by condensation of its tissue, draws itself toward the median line as its *quasi* point of attachment. As a consequence, under the peculiar conditions, the resistance which, in its normal state, it offers to the other or healthy, half of the ellipse, may be regarded as lessened, giving to the median line a tendency, if not actually pushing it, toward the sound side of the face—a deviation which is also aided by the tonicity of the zygomatici and risorius of the healthy side, and by their contraction when movements of the face are voluntarily attempted, at which time the distention becomes especially apparent.

The complete shrinkage of the "paralyzed" half of the orbicularis upon itself is hindered by the similar contractile tendency of the risorius, zygomatici, and depressor anguli oris. But some of these are very weak muscles, and are only indirect opponents, so that, in spite of such resistance as they offer, the more powerful orbicularis effects a condensation of its tissue in the direction of its *quasi* attachment, the healthy half of the muscle. Notwithstanding this shrinking upon itself, on the part of the contracting lateral half of the orbicularis muscle, the chasm between the lips of the same side is only imperfectly closed, because the levator and depressor labii and depressor anguli oris are pulling at opposite parts of the muscular half-ellipse, preventing its full condensation and closure. As a consequence, fluids, as well as the breath and saliva, pass out here, giving a coloring to the popular idea that this portion of the muscle is relaxed. This view of the case fully accounts for the symptoms present, including the loss of the expression and the immobility of the features on the side of the paralyzed nerve.

But it is said that the buccinator muscle gives evidence of being paralyzed and relaxed, by permitting the flapping of the cheek during expiration. It is possible that this symptom may occur during moderate tension of the cheek, as well as during relaxation; and that it may be explained as a merely mechanical movement of the unsupported cheek. Drs. Todd and Bowman refer to it as occurring in the progress of protracted cases, where there is "great wasting of the muscles," in which the buccinator "becomes reduced to a mere inert membrane" ("Path. Anat.," p. 479), in which case, of course, the contractile power of the muscle (which is dependent upon its healthy nutrition) suffers greatly. This puffing of the cheek occurs, however, in more recent cases of paralysis, where time has not been afforded for loss of tissue, and even *in cases where there is no evidence of facial paralysis at all.* I am positively assured by several medical gentlemen, who claim to have witnessed it, and who would not hesitate to certify to the fact, that they have repeatedly seen this flapping of the cheek during the sleep or stupor of drunkenness, in subjects which at no time gave any evidence of paralysis. Some of Dr. J. W. Bennett's cases ("Clinical Lectures") furnish strong inferential evidence, at least, in favor of this statement. This symptom is so often mentioned by him as to justify the conclusion that it has not been omitted whenever present, and the cases are evidently reported with much care. The omission of any mention of it, notably in the 17th, 22d, and 27th cases, is, therefore, to be regarded as evidence that flapping of the cheek was not present, though the facial paralysis (from apoplexy) and the distortion of the mouth were well marked. In cases so obviously severe, the buccinator could hardly escape implication in the same paralytic process as the other facial muscles; and if the flapping depends upon paralysis and relaxation of this muscle, why is there no evidence of flapping here? Besides, it has not been shown that in the cheek, adherent as it is around its circumference, but free and unsupported in its central area, this flapping may not occur while its state is one of moderate tension. Indeed, no *proof* has been offered that the cheek or the buccinator is paralyzed and flaccid at all. It has been *assumed* to be so, merely as a mode of explaining the symptom, and that is all. A substantial reason why the buccinator muscle is not paralyzed in ordinary facial paralysis is to be found in the fact that it derives motor influence not only from the facial nerve, but also from the inferior maxillary, which supplies the masseter and other muscles of mastication, so that when the latter escape, as they usually do, the integrity of the buccinator is also pretty well assured.

It is also alleged, by all the writers on facial paralysis, that the buccinator muscle is relaxed in this disease because the food accumulates between the jaws and the cheek. Dr. Hammond, who himself adopts this view of the case, furnishes an involuntary illustration of how little dependence is to be placed on authoritative expositions, and how readily what are quoted in text-books as proofs of the existence of certain conditions can be modified, or reversed, by "the great masters" of pathology, when it becomes necessary to reconcile facts with the theory predominant in their minds.

The buccinator is under the motor control of the facial nerve, and consequently, in glosso-labio-laryngeal paralysis, this muscle is not "paralyzed." Nevertheless, here also the food accumulates between the jaws and cheek just as it does in facial nerve paralysis. Dr. Hammond, while admitting this fact, says: "This is not due to any paralysis of the buccinator muscle, but to the want of power of the tongue to move the alimentary bolus around the cavity of the mouth" (ib., p. 679).

The point here is that the food may accumulate in the cavity of the cheek when the buccinator is acting normally and is not paralyzed; consequently the alleged proof that the buccinator is paralyzed is no proof at all, and is merely an erroneous inference from "a scientific use of the imagination." If the reader (whose facial nerve is acting normally) will direct his attention to what occurs during mastication of his food, he will find that it passes freely into the space between the cheek and the jaws, but fails to remain there, owing to its very freedom while there, and to the free action of the cheek and lower jaw during the process. He will also find that the portion of food referred to is not ordinarily removed from the cheek by the action of the tongue, which does this only exceptionally, and when specially directed to it by an act of volition.

A little consideration will show that it would be impossible for the mucous membrane of the cheek to be so pressed against the alveoli as to exclude the food from passing between them during mastication; that such close adhesion would result in its being frequently bitten, and would besides materially interfere with the necessary movements of the cheek and lower jaw. That the food is retained between the cheek and the alveoli, in paralysis of the facial nerve, is undoubtedly true; but the facts, duly considered, show that this retention is due, not to a more than normal relaxation of the buccinator, but to the degree of undue contraction upon which its fibres have entered, on their nervous restraint being withdrawn; a contraction which does not prevent the food from passing between the cheek and the alveoli, but suffices, by the pressure it occasions, to retain it there until mechanically removed by the tongue or finger.

I cannot refrain from referring here, in the briefest manner, to the case reported by Drs. Beard and Rockwell, in their large work, in which, probably owing to the addition of the buccinator to the other antagonists of the orbicularis oris, the latter was overbalanced, and the mouth drawn toward the side of the paralyzed nerve, the muscles of which were notably contracted, and recognized as being so. Dr. Moritz Meyer, in his "Electricity in Prac. Med.," details several cases of peripheral facial paralysis, in which, amid "complete paralysis of one side of the face," the muscles displayed marked contractions. In Case 89, involving the left side of the face and the left nasal wing, the left levator was so rigid that it "could be felt from the inside like a tendinous cord." In the subsequent cases, the terms "stiffness," "rigidity," "spasms," and "contractions" are of frequent occurrence, as applied to the "paralyzed" facial muscles, of which the levators, depressors, and zygomatici were in one or other of these cases affected. These were examples of peripheral paralysis, chiefly due to cold and exposure, in which the muscles were promptly set free, owing to paralysis of their intramuscular motor-nerve endings; and hence the marked character of the contractions.

What have we to say about the obicularis palpebrarum remaining obstinately open in paralysis of the facial nerve, which furnishes motor control to this muscle? Why does it not assert its "inherent contractile power" and close the eyelid when its motor nervous restraint is thus withdrawn? In other words, if in the ordinary act of muscular contraction, there is a release of the muscle from nervous inhibition, by an act of the will, here, when this restraint is at an end, why does the muscle not avail itself of its involuntary freedom?

The orbicularis palpebrarum consists of two parts: the large muscular ring which underlies the eyebrow and extends downward upon the cheeks, and a more delicate and much smaller portion which covers the eyelids. The contractile power of the larger muscular ring finds an antagonist in the frontalis muscle, to which motor restraint is also supplied by the facial nerve. Hence, when the entire muscle is brought into action, the frontalis must yield, since not only the integument of the cheek, but of the forehead and temple, yields to its influence (Grey's "Anat.," p. 243). Paralysis of the facial nerve implies the setting free of the contractile power of its rival, the frontalis, and the pitting of this contractile power against that of the upper half of the ring of the orbicularis (its more active portion) prevents the descent of the eyebrow and the closure of this portion of the orbicularis.

It is only in forcible closure of the eyelids, however, that this portion of the muscle comes into play. The ordinary act of closure of the lid, as in voluntary and involuntary "winking," is performed solely by thin fibres stretched across the eyelids. These are in part composed of muscular tissue, and are under the control also of the sympathetic (Grey's "Anat," pp. 547, 625; Soelberg Wells, "Dis. Eye," p. 712). These sympathetic branches derive their motor power from the third pair (motor oculi), through the ciliary ganglion; and until the restraint which they exercise over the palpebral portion of the muscle is paralyzed, or nominally inhibited, this portion of the muscle is not free to contract, and consequently the eyelid remains open, notwithstanding the existing paralysis of the facial nerve, which, so far as it is concerned, has set the muscle free.

The significance of the view of the case just presented is materially heightened by facts bearing on the action of the eyelids in other diseased states. Thus, according to Dr. W. A. Hammond, while in paralysis of the facial nerve the eyelid remains *wide open*, in the paralytic stage of suppurative encephalitis the lid is "spasmodically closed" (ib., p. 249). That this closure is not due to the irritation of light is shown by the evidence of paralysis of the third nerve, as seen in the accompanying strabismus, double vision, etc. Now, the theory of the day teaches, and its adherents of course vigorously maintain, that it is *the muscles* which are paralyzed in the various forms of hemiplegia; and in paralysis of the facial nerve, that the *muscles* of the implicated side of the face are paralyzed, relaxed, and unable to contract, or even to maintain their ordinary "tone." Thus, in paralysis of the facial nerve, the orbicularis muscle of the eyelid remains open (it is said) because it is paralyzed; and, in suppurative encephalitis, in which the facial nerve is also paralyzed in the case we are considering, the orbicularis of the eye is necessarily paralyzed also, although here it is closed. The doctrine taught amounts to this: that in both these paralytic states it is *the muscle* which is paralyzed, with the result that in one case it remains persistently *open*, and in the other it is as obstinately *closed!*

The theory I am endeavoring to advocate leads to no such dilemma. As already stated, in simple facial paralysis the eyelid remains open, because its muscle although freed from the restraint of the facial nerve, is still subject to the control of the sympathetic branches which pass into it. In the severer paralysis of suppurative encephalitis, the eyelid is closed, because both the facial and sympathetic nerves are paralyzed, and the contractile power of the muscle is wholly set free and exerts itself accordingly.

The proofs have already been given that both the facial nerve and the third nerve, which supplies motor power to these sympathetic nerves, are paralyzed (Dr. Hammond, "Dis. Nerv. Syst.," pp. 248–249). The fifth, eighth, and ninth nerves are also usually involved in the same paralytic process (ib.). There is, therefore, of necessity an absence of nervous action as regards the "spasmodically closed" eyelid—a condition eminently in accord with our theory and with the propositions of Dr. Radcliffe, before quoted. But there is also here a condition diametrically opposed to the theory of the day, which demands "a preternatural stimulus" (Dr. Periera) from these paralyzed nerves, as essential to the muscular contraction which closes the eyelid.

The "twitchings of the muscles," "startings of the tendons," and "tremors" of the limbs, which are among the ordinary symptoms of this and other paralyzing diseases, are further evidence, not of "a failure of muscular power," but of the momentary exercise of that power, owing to the temporary failure of nervous restraint over the muscles—the property of contractility in which is comparatively independent of ordinary vital changes, and survives even the general death of the organism, displaying a little later, in rigor mortis, after the complete cessation of intramuscular nerve-force, "the most steady and persistent contraction which muscle can possibly exhibit" (Dr. F. Anstie, "Stim. and Nar.," p. 70).

A few words now as to the behavior of the tongue in states of paralysis of the ninth nerve, in which, on its attempted protrusion, it turns toward the side on which the nerve is paralyzed. The tongue is protruded by the action of the genio-hyo-glossal muscles, of which there are two, almost in juxtaposition, and are inserted longitudinally on either side of the median line along the base of the tongue. As usual, it is said that one of these *muscles* is paralyzed, and fails to push forward its side of the tongue, the lagging behind of which causes the deviation referred to.

The tongue is a compact organ composed of fibrous tissue and transverse and longitudinal muscular tissue. Its structure is therefore tolerably dense; and, from the closeness of the insertion of the two genio-hyo-glossal muscles along the whole length of the median line at its base, the action of either of these muscles might fairly be expected *to push forward the entire organ, provided its "paralyzed" side were entirely passive.* How true this is will appear from the following quotation from Dr. Carpenter, who says: "An instance has been communicated to the author by Dr. W. Budd, in which the hypoglossal nerve was completely divided on one side; and yet the tip of the tongue, when the patient was desired to put it out, was sometimes directed from and sometimes toward the palsied side, *showing that the muscles of either half are sufficient to give any required direction to the whole*" ("Hum. Phys.," note, p. 693).

The curve of the tongue on its attempted protrusion, is, then, not a proof that the corresponding muscle is paralyzed and passive, since such passivity would not necessarily prevent the protrusion of the organ in the usual way. Suppose that, as in the case of the other muscles mentioned, the muscle of the paralyzed nerve enters on a degree of contraction. The contraction of the *anterior* portion of the genio-hyo-glossus (which *retracts* the tongue), though unable to prevent the main portion of the muscle from protruding it, will yet materially retard this action, giving rise to the deviation under consideration.

That there is a strong justification for the explanation just given, will appear, not only by its precisely accounting for the situation, but also, from the fact stated by Prof. Kuss, that when the hypoglossal or motor nerve of the tongue is cut in a dog, the tongue "hangs out between his teeth," and the animal is unable to withdraw it within the mouth ("Lectures," Duval, Amory, p. 40.) Here is evident muscular contraction following directly upon section of a motor nerve, on which the champions of the theory of the day will no doubt feel called upon to reflect.

If the question be asked, why the contraction present in the muscles of the face, tongue, and œsophagus, during paralysis of their nerves, does not also occur with similar promptitude in the muscles of the extremities under similar conditions, the answer is probably to be sought in the fact that the nerve-trunks of the face, etc., are shorter, permitting a paralyzing wave more promptly to reach the terminal nerve-plates and nuclear reservoirs within the muscles, setting the latter free, than in the longer nerve-prolongations which pass to the muscles of the more distant extremities.

In the general view of the case here presented, the treatment of nervous paralysis, whether attended by simple motor incompetency without spasm, or when accompanied by muscular contractions or rigidity, would be properly directed to a restoration of nerve-force, as the natural antagonist to muscular contractile power. Remedial measures which reinvigorate the nervous system, temporarily or permanently, have proved the most effectual in the cure of tremor, spasm, or tetanic rigidity of muscle. So true is this, that Dr. Hammond attributes the palm to "stimulants" in the treatment of tetanus (ib., p. 541); and dilute alcohol is rapidly coming to the front in the spasms and contortions of strychnia poisoning (*Amer. Jour. of Med. Sciences*, Oct., 1879, p. 587). Such facts speak volumes for the theory here advocated, and are of course inimical in an equal degree to the theory of the day, as has elsewhere been more than once pointed out.

From the foregoing, it appears to the writer that the thesis with which we set out has been maintained; the theory put forward of the relations of nerve and muscle has been vindicated; and the striking symptoms of facial paralysis explained and accounted for on this theory, in full accord with the facts and the anatomo-physiological conditions present. It has also been pointed out wherein the theory now predominant fails to accord with, or to explain these conditions. All of which is submitted to the candid judgment of the reader.

In conclusion, may I be permitted to add, that I am well aware how utterly futile it would be, either for myself or others, to ignore the great principle that the interests of truth are paramount, and should never be compromised for the sake of supporting a theory, however favorite a one it may be. If my critics deem me culpable in this respect, I assure them that I am not intentionally so; and whatever my defects in this respect, *may I not hope to profit by their example* of fairness and love of truth?

SYPHILITIC DEGENERATION OF ARTERIES

As a Cause of Aneurism, with a Report of Two Cases.*

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These specimens are presented with the view of showing the deleterious effects of the specific disease "syphilis" on the arterial system in its last stage. It is acknowledged that syphilis is one of the most predisposing causes of aneurismal dilatation of the arterial vessels. The length of time, however, that the disease will remain dormant before effecting any degenerative change in the vessels is variable; also the period to which life may be prolonged after the formation of an aneurism, by nature strengthening the diseased artery—by throwing up new tissue or by filling the sacculated portions with fibrin or coagulum—cannot be definitely given. The important feature of the two following cases is the difference of time from the reception of the disease to death. In the first case it will be seen that death resulted within two years after the contraction of the disease, while in the latter sixteen years had elapsed.

Case I.—Miss Nellie B——, æt. 22, of medium size and good proportion, called at my office on March 5 (1880). She was at the time very weak, and appeared somewhat debilitated from the effects of the difficulty for which she sought advice. On questioning her she responded, giving the following history. Three years previous she had contracted syphilis, which was recognized as such by the appearance of a chancre. A few months later she gave evidence of having the secondary stage, which was manifested by the characteristic eruption, and a difficulty with the throat. The disease was seemingly controlled, and she began to improve, and enjoyed moderately good health, until about the first of January last, when she experienced some pain in the precordial region. This pain gradually increased in severity and duration, coming on in paroxysms, and her general health by degrees became reduced. The pain was so severe at times, when she exerted herself either in walking or otherwise, that she was compelled to support herself from falling. She described the pain during a paroxysm as being agonizing and lancinating; together with suppressed breathing, or, probably better described as if the chest-walls were constricted. She at times, during the interval between January 1st and March, felt moderately well, and at other times was compelled to take to her bed for a few hours or more. Such was her condition, which she described as varying from no particular uneasiness to extreme paroxysmal pains.

No evidence of previously existing disease was perceptible on the surface of her body or in the fauces. On percussion and auscultation, the lungs were found to be in good condition. In the precordial region, however, I detected a faint, or rather almost imperceptible bruit at the base of the heart. A few days later, the 8th inst., on examining a specimen of her urine, I found albumen, although no casts were detected. She did not call again until the 11th inst. Her condition was about the same, but her urine showed some improvement with her kidneys. I attended her at different times until the 20th, when I was summoned to see her in haste. I found her suffering with intense pain in the region of the heart, which extended to her left shoulder and arm. The pain was intensified during the paroxysms, which were of varying duration, and recurring at longer or shorter intervals. While laboring in one of these paroxysms, her body became livid, her face bore an expression of extreme anguish and fear, the pulse full and varying from eighty-five to one hundred, copious diaphoresis was notable, and respiration was greatly impeded and very irregular. The heart's impulse was almost imperceptible, and the pulsation of the right radial artery could be only slightly felt, while in the left it was entirely lost. On recovering from one of these paroxysms, she would sink into a state of complete exhaustion, the pulse would become rapid, respiration slow, shallow, and irregular, and diaphoresis markedly increased. She restricted her breathing somewhat, evidently apprehending that the pain would be intensified if a full movement of the chest was established. Any exciting cause, such as the barking of a dog, the unexpected movement of a door or window-blind, or any exertion, as in turning or getting out of her bed, would tend to bring on a paroxysm. To avoid any exertion, she remained perfectly quiet in one position, usually on her back. Pressure applied to the precordial region seemed to relieve her of pain very considerably. Her general health during the interval between the 20th of March and the 4th of April became very much reduced. Her urine was very scanty and high-colored, giving evidence of kidney difficulty. She experienced great thirst, and would drink any fluid given her. The remedies employed were anæsthetics, anodynes, and tonics, but these were only palliative in effect, if effectual at all, as they were, owing to a sensitive condition of the stomach, immediately rejected. Her condition remained about the same, and she continued to present the distinctive paroxysmal features each day until the 3d inst., when she stated that the pain was more especially beneath the sternum. This was excited by deglutition, and caused, as she described, a feeling of oppression in the œsophagus, and it was only with extreme care that she was enabled to receive any fluid into the stomach. Toward evening she appeared very much weakened, and remained in a fixed position on her back, until about five o'clock on the following morning, when she arose from her bed and crossed the room for some purpose and then returned. She requested a drink of water, which was given her, and in a few minutes later died.

Post-mortem.—Stomach normal in appearance, with the exception of a slight congestion of the mucous membrane in the greater curvature. Liver very large, with rounded edges; ecchymotic spots were present; very firm to touch and amyloid in character. Kidneys: left capsule adherent, irregular in shape, with slight depressions on surface; length 5 inches, width 2 inches, thickness 2 inches; very much congested, firm, and hard; cortical portion very thin; medullary portion very distinct; right: this was the same as the left in every respect, save that it was granular. Spleen normal. Ovaries enlarged and considerably congested. Omentum normal in proportion and apparently in a healthy condition. Bladder firmly contracted and in good condition. Uterus considerably congested; the round ligament and ovary on left side were firmly bound down to the posterior surface of the uterus; two small cysts were found on posterior surface of fundus. Lungs: the substance of each was apparently in a healthy condition; a few adhesions of pleura, no effusion. Heart notably larger than normal; the pericardium very much thickened and congested; no effusion in pericardial sac; the surface of the heart presented a few ecchymotic spots at its apex, with a fatty deposit at the base; the substance was soft, infiltrated with a fatty element, very flabby, and of a pale tawny structure; the walls of the left ventricle were thickened, while the reverse was the case with the right; the endocardium was somewhat hypertrophied, and the larger portion of it was of a pale color and flabby, while immediately beneath the semilunar valves it was of a yellowish white color and presented numerous atheromatous patches of recent origin; the semilunar valves were thicker than normal, and about the corpora arantii were found firm points or spots; a firm clot was found in both ventricles, the one in the right extended into the pulmonary artery, and the one in the left into the aorta. Aorta: this artery was dilated from its union with the left ventricle to the descending portion, thus involving the entire arch; it was fully twice as large as normal in diameter, and of varied thickness; at its junction with the left ventricle it formed a constricted ring, which produced a sac at the beginning of the arch; a ring of a similar description was also formed at its union with the descending portion; the arch, which formed the sac, was composed of coats of varied thicknesses; atheromatous patches were perceived in the inner surface of the arch, which was more or less nodulated; the coronary arteries were also dilated and their coats thickened and hard, so that they formed ridges over the surface of the heart.

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* Read before the Albany County Medical Society.

The most striking feature of the changes in the aorta was the complete occlusion of the left subclavian artery by a small portion of the degenerative tissue which was firmly grafted to the inner coat. It can be readily seen why pulsation of the left radial artery could not be felt.

Case II.—I was called to see Mr. R. W——, æt. 39, of medium size, on the 28th of August, 1878. I found the patient, who appeared very much reduced, lying on an old dilapidated bed in a small, dark, filthy, and ill-ventilated room. He lay in a bending posture, with his legs flexed upon his body, as if endeavoring to alleviate the pain in his abdomen, which he described as excruciating and agonizing. I endeavored to get the history of his case, but owing to some impairment of his mind which evidently resulted from his low physical condition, failed to gather from him anything of importance regarding his condition in general. The parties who were in attendance, however, furnished me with the following history. They stated that a few months previous, he, while in company with some men in a boat on the river, was thrown overboard, evidently for their own amusement, and was considerably chilled. The following morning he complained of pain and some soreness in the lower right portion of his abdomen. In a few days this portion commenced swelling, together with increased pain, and gradually assumed its present proportion. For a number of weeks he was only able to move about on crutches, and in consequence of the severe pain was finally compelled to take to his bed. It was questionable whether his trouble was the sequel of the strain and cold he received at the time of his river experience or not, as there was no evidence that would elicit any information. He had been very much reduced by riotous living and had suffered in many ways from exposure.

On making an examination, a large tumor was found which occupied a position to the right of the medial line, the upper portion of which involved the lower part of the right hypochondrium and the whole of the right iliac region. The mass extended down the thigh beneath Poupart's ligament, as was seen by the somewhat constricted appearance of the tumor at the ligament. The walls of the abdomen were swollen and elevated, but not particularly prominent in any one portion, as is characteristic of different tumors. The skin was tense and presented a mottled appearance, and on placing my hand on the mass, it was found hard and resisting. The circulation was impeded by the pressure of the mass upon the veins, consequently there was great œdema of the thigh, leg, and foot. No movement or pulsation could be received from the tumor. Subsequently I learned, on completing the examination, that he contracted syphilis while in the army during the Rebellion, and that he had complained at various times of a stiffness, pain, and swelling in the region mentioned. He gave very little evidence of any constitutional disturbance, and his only complaint at this time was the severe pain, which he located immediately below Poupart's ligament and to the inner side of the thigh.

He was given anodynes, and warm fomenting dressings were applied, but he did not obtain any relief. He was admitted to the Albany City Hospital September 10, 1878. Dr. John Swinburne visited him in consultation with me, and he regarded the swelling as external to the pelvis or peritoneal cavity. He expressed his opinion that suppuration would take place below Poupart's ligament, from the appearance of the tumor, and advised that warm applications with oiled silk covering be extended well down on the thigh, to aid, if possible, an opening in this vicinity. This treatment was continued for a number of weeks, but no decided benefit was noticed. On the 18th of October the patient's symptoms gave evidence of an unfavorable termination. Drs. Albert Van Derveer and Samuel B. Ward saw him in consultation with me, and the prominent symptoms presented were as follows: he lay in a semicomatose condition, unable to assume a sitting posture or turn to either side in bed; responded incoherently to questions; sensibility greatly impaired in lower right extremity; obstinate constipation, pallor, and general emaciation, with atrophy of the muscles. This last condition effected a marked prominence to the tumor, which enabled us to see the exact extent of the growth. It appeared to involve nearly the whole of the pelvic cavity and the right half of the abdomen. There were no indications of the tumor opening externally, and fearing that it might rupture into the abdominal cavity, we decided to aspirate, knowing that he would die unless relieved. On the following day, in presence of Drs. Albert Van Derveer and S. H. Russell (resident surgeon), I introduced a small exploring-needle into the most prominent portion, and gradually pressed it well into the body of the tumor, a distance of three inches. The appearance of the fluid and the peculiarity of the flow convinced us in a very few seconds that it was best to withdraw the instrument. The needle had entered an "aneurism." No harm resulted apparently from the operation, as there was no decided change during the following month. His temperature continued varying from 99° to 106°, and his pulse, from 100 to 120. His bowels remained constipated, and his right leg became more and more œdematous from day to day, and his strength very much reduced; and finally, on the 9th of December, death relieved him of his suffering.

Post-mortem.—Examination was made thirty-six hours after death. Body extremely emaciated; rigor mortis well marked. I will not give in detail the condition of the different organs, as they were about normal, save kidneys, which were granular, with adherent capsules, and enlarged pelves, and liver enlarged and amyloid in character.

On making an incision over the body of the tumor the abdominal walls were found to be very thin, and firmly adhered to the growth. Dissecting the abdominal walls from the tumor, we found a small portion of the intestines lying upon the upper third of the mass, while the free portions were crowded into the epigastric region, displacing the stomach to the left. The right external iliac artery passed over the tumor, and was partially imbedded in it, and changed from its normal course downward. Owing to the immensity of the aneurism, and wishing to procure it without injury, we removed the entire mass by dividing the spine between the tenth and eleventh dorsal vertebræ, the pelvis at the symphysis pubis, and the left sacro-iliac synchrondrosis and the femur about six inches below the greater trochanter. The entire mass was then arranged so as to enable us to get the proportions of the aneurism and to study more exactly the character of the tumor. The proportions of the tumor I present you are as follows: length, 10 inches; diameter above Poupart's ligament, 7 inches, beneath the ligament, 3½ inches, below the ligament, 4½ inches. The aneurismal sac extended from the upper edge of the last dorsal vertebra to four inches below Poupart's ligament.

The coats of the internal iliac artery had evidently given away by the pressure near its origin, and as it increased in size burrowed its way beneath Poupart's ligament down on the thigh. The pouches which are found in different places are filled with fibrin and coagulated blood, and wall after wall of connective tissue has been thrown up; thus each pouch was prevented by the efforts of nature from rupturing until this large hardened mass was formed, presenting more the appearance of a solid growth than an aneurism.

In the etiology of disease probably no one cause commands a greater area for consideration than syphilis. The changes it effects on the human system present many very interesting features, one of which I here disclose in reviewing the foregoing cases. I do not intend, however, to discuss the constitutional peculiarities of syphilis further than its effects on the arterial system, as it does not appropriately become a part of the subject now before you. The arterial lesions of syphilis have been of late the object of much study and investigation; yet, the remarks which have appeared in print are somewhat brief and inexplicit, which leads one to infer that those who are interested in the subject question whether aneurisms are the result of this disease or not. The evidences clinically collected, however, furnish sufficient proof of the peculiar effects of syphilis. One author remarks: "Those arteries which are most prone to atheromatous and earthy degeneration are those which are most prone to aneurismal dilatation." The diseased or atheromatous condition of the artery by fatty degeneration into oil particles arises from an internal cause. Syphilis is evidently the most predisposing cause of this irretrievable condition of the artery. The middle or muscular coat of the vessel is mainly the seat in which the crystals of cholesterin and subsequently calcareous degeneration occur. The tissues in which these particles accumulate are gradually disintegrated with a deposition of a fatty or calcareous element. They are also subject to gummy infiltrations diffused between the coats of the artery for some length, thus thickening the same or developing in a distinct tumor. Gelatinous nodules may develop from the middle coat, and by their presence upon the internal coat decrease the calibre of the vessel. The inner aspect of the artery presents slightly elevated patches, yellowish and opaque, in the atheromatous stage of degeneration. They are seemingly covered with a thin membranous coat, which, as the degeneration advances, partially or completely gives way or disappears entirely. In the calcareous stage a destructive condition is effected as the artery becomes inelastic and brittle, and the patches assume the character of bony plates, but these have little or no osseous structure. The artery is disposed to yield to the pulsating action of the arterial wave-current, and develop into an aneurismal sac at the portion of the artery which has undergone a degenerative change, thus destroying its elasticity and contractility. Such was the condition of the internal iliac artery mentioned in the second case. Its entire continuity was destroyed and at different portions was developed into pouches, evidently owing to it not being able to resist the current pressure. The vessel may assume a calcareous character and remain rigid, and the particles of degenerated tissue progressively develop in size and subsequently occlude the blood-current. This condition was noticed in the left subclavian artery at its origin with the aorta, in the first case reported. The mass or patch was firmly adherent to the inner surface of the vessels and presented somewhat the appearance of a valve.

Aneurisms terminate fatally, either by rupture of the dilated portions, gangrene of the vessel, or constitutional irritation. In the two cases reported, death evidently resulted from the constitutional effects of the diseased condition of the arteries.

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THE BOYLSTON PRIZE.—The following are the questions proposed for 1881:

1. The effects of drugs during lactation, on either nurse or nursling.

2. Injuries to the back without apparent mechanical lesion, in their surgical and medico-legal aspects.

The author of a dissertation considered worthy of a prize, on either of the subjects proposed for 1881, will be entitled to a premium of three hundred dollars.

The questions proposed for 1882 are:

1. Sewer-gas (the gas found in sewers): What are its physiological effects on animals and plants? An experimental inquiry.

The author of a dissertation upon the above subject considered worthy of a prize will be entitled to a premium of three hundred dollars.

2. The therapeutic value of food, administered against, or beyond, the patient's appetite or inclination.

The author of a dissertation on the above subject considered worthy of a prize will be entitled to a premium of two hundred dollars.

ON THE RELATIONS OF DIPHTHERIA AND SCARLET FEVER.

Read at a Quarterly Meeting of the Tri-States Medical Association,

Held at Port Jervis, N. Y., July 14, 1880.

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There are, unexceptionably perhaps, no two diseases between which there exists so intimate a relationship as between the two which constitute the subject of discussion in the present instance. One so completely glides into the other, that we have the singular phenomenon of two disorders, generally described as distinctly separate, existing, apparently, in the same person at the same time. While one is not likely to err in his diagnosis when either disease appears in its clearly marked forms, yet it is quite often difficult in individual cases to determine whether it be one or the other in question. This observation is especially true in sporadic occurrences of attacks of these maladies. Among all the symptoms, there is no single one that would be completely indicative and pathognomonic in the diagnosis at all times. To particularize, the following may be noted as marked features of resemblance in a general way: The two diseases agree in their epidemic character, in the degree and course of their pyrexia, and in their chief points of attack, being the throat and skin. The etiology of the two, likewise, stand upon a common basis. Any one of the varied causes recognized as productive of the scarlet-fever poison, applies with equal force to diphtheria, and *vice versa*. The sequelæ of the two diseases are also similar: suppuration of the lymphatic glands; ulceration of the ears; arthritic affections, with or without cardiac complications; kidney disease, manifested by albuminuria and dropsy; general or local paralysis of the nervous system, etc. Each and all of these consequences have been met with after both diseases, yet the differences between them are too important and too numerous to permit of their effects being considered as different manifestations of the same disease. First, it may be asserted as capable of being maintained, in my opinion, that diphtheria may arise directly from scarlet fever, but that the converse of this proposition does not obtain. When the characteristic features of diphtheria occur coincident with the existence of scarlet fever, in any particular case, during a scarlatinal epidemic, I am inclined to believe that the former is to be viewed in the light of a complication, rather than as a distinctive disease. The diphtheritic invasion intercurrent with and aggravating an existent scarlet fever attack, finds its vulnerable point of seizure in connection with already invaded parts, namely, the organs of the throat; and when this happens, to wit, the formation of a well-marked exudative membrane in the fauces, it may be said, I think, with all propriety, that the distinguishing feature of the one disease is *engrafted*, as it were, upon the other general malady.

Another etiological phase of difference in the two diseases is this: diphtheria is less energetically contagious, and is more frequently associated with local causes than scarlet fever. It is conceded that both diseases, as to production and spread, have a close connection with unsanitary surroundings—such as exhalations from fecal matter, sewage gas, and the like pestilential agencies; but it is generally admitted, I believe, that diphtheria is more essentially dependent for its prevalence upon these morbific influences than scarlatina. Besides the marked difference just mentioned, it may be affirmed, I think, without cavil, that scarlet fever is more unmistakably dependent on the personal conveyance of infection for its spread. Then, again, I am of the opinion that seasonal influences exert an unlike agency in respect to the two diseases. The facts seem to justify the statement that scarlet fever prevails most in late autumn and early winter, while diphtheria is less dependent upon season; nor is it influenced by heat or moisture or locality. Still another point of difference between the two diseases is, that while scarlet fever is rarely associated with other complaints, diphtheritic affections are commonly met with in the course of various pyrexial disorders.

The most typical feature of scarlet fever is perhaps its accompanying rash. This is almost never wanting or undistinguishable. In diphtheria it is often, if not generally, absent, is very variable as to the time of its appearance, occurring seldom at the outset of the malady, and it may occur as late as the third week. Albuminuria is often found within two or three days after the commencement of diphtheria, whilst in scarlatina it seldom sets in until desquamation of the kidneys has commenced. There is an absence of definiteness about the duration of symptoms in diphtheria which marks it off from the regular sequence of events of scarlet fever; in the former, exudation may form on the fauces for six weeks or two months without much affection of the cervical glands. The mode in which diphtheria localizes itself on the mucous membranes or broken surfaces separates it from any other disease. Different epidemics differ widely in the point selected for attack; often the larynx and bronchi have been seized, as well as the throat, in diphtheria; but does scarlet fever ever attack the larynx? Furthermore, does an attack of diphtheria confer any immunity from subsequent seizures? The susceptibility of the throat, indeed, seems rather increased than diminished incident to diphtheria, while scarlatina seldom reappears in the same individual.

Without pursuing further an alternate contrasting of the two seemingly related maladies we have attempted to analyze, let us now consider briefly some of the special and phenomenal characteristics of diphtheria, which may tend helpfully toward settling its individuality as regards any other form of allied disease. Whether diphtheria is in the beginning a systemic affection or becomes a constitutional disease after, and in consequence of, the local lesion, is a question I shall not stop to discuss; but I do not hesitate to declare it to be, in my judgment, due to a *contagium vivum*, or living microscopical fungus, that gets entrance into, and grows at the expense of, the animal fluids. The nature of diphtheritic contagion, it seems to me, has been microscopically demonstrated—demonstrated as satisfactorily and conclusively as it has been demonstrated that carbon and zinc, when placed in contact with sulphuric acid, will generate a force which in physics is called electricity.

This wonderful triumph of discovery of the true causation and real pathology of diphtheria was the outcome of the labors of Heuter and Oertel. They simultaneously made the discovery that the diphtheritic membranes, the subjacent diseased parts, and even the blood of diphtheritic patients, contained in great numbers vegetable organisms, so-called bacteria, to which Oertel gave the name of micrococci. The significance of vegetable parasites in diphtheria and diphtheritic contagion has been subsequently and further proved by numerous other distinguished investigators. Microscopical examinations of the exudative membrane of diphtherial patients have invariably disclosed nides of micrococci, and large colonies of these organisms, in numerous instances, have been discovered in the brain and other organs of those who have died of diphtheria.

Independently of the argument incidentally introduced, having relation to the etiology of diphtheria, from an unbiased consideration of the facts and evidences germane to the general question bearing upon the differential diagnosis of the two diseases which we have essayed to consider, it may be justly concluded, I think, that, while they furnish many points of resemblance, the features of unlikeness, as to nature and symptoms, are too great to allow us to rank them as identical.

Progress of Medical Science.

Amputation of the Cervix Uteri.—A discussion took place recently in the *Société de Chirurgie*, Paris, concerning the best instrument for this operation. Most of those who took part in it favored the galvano-cautery, on the ground that the thermo-cautery produced too much heat and smoke, while the knife was dangerous on account of the hemorrhage it caused. —*Jour. de méd. de Bordeaux.*

Prevention of Secondary Hemorrhage.—Dr. Parona, of Bologna, considers that the essential condition for the success of ligature or torsion of a blood-vessel is the formation of a clot, and this he proposes to effect more rapidly and certainly by the injection of a few drops of hydrate of chloral into the lumen of the artery. The usual ligature may be placed on the vessel, or two ligatures may be used and the chloral injected into the portion of the artery enclosed between them. He tried a variety of substances, but found chloral superior to all others as a coagulating agent, the resulting clot fitting much more closely the calibre of the vessel, and not shrinking as does that yielded by perchloride of iron. He performed numerous experiments on dogs before venturing to practise his method on the human subject; he has lately, however, tried it in two cases with excellent results. Besides acting as a hæmostatic, the chloral acts also as a sedative, and thereby exerts a favorable influence from the first on the progress of the case.—*London Medical Record*, April 15, 1880.

Polypi in the Frontal Sinus, unassociated with similar growths in the nasal fossæ, are of great rarity, while in conjunction with nasal polypi they would appear to be not so extremely infrequent. Dr. H. Knapp contributes the following interesting case of polypi and accumulation of pus in the right frontal sinus, with successful operation. Patient stated that six years previously his right eye began to be pushed down, forward, and outward. The protrusion had gradually increased. A tumor was felt in the upper inner corner of the eye four years ago, and had since been growing slowly but steadily. When he presented himself, Dr. Knapp found the eyeball displaced forward, down and outward, its motion restricted up and inward. A round tumor, about the size of a walnut, occupied the upper inner corner of the orbit. Its centre felt soft, its periphery hard and in some places bony. It was immovably connected with the periosteum. The tumor throbbed when pressed upon, but it did not increase when the patient stooped. V. R. $\frac{20}{40}$, L. $\frac{20}{20}$; no diplopia. The interior of the globe was normal. Aside from occasional headache, there were no cerebral symptoms present, nor was there any abnormity discoverable in the nasal passages or the molar antrum. Dr. Knapp diagnosed periosteal sarcoma with osseous spicula and softened portions, a kind of tumor which he has several times observed on the roof of the orbit in young people, even in children. The patient was operated on, February 9, 1878. A curved incision was made below the orbital margin, from the middle of the lid to the roof of the nose. On cutting deeper, a large quantity of offensive pus was liberated from a cavity which, when probed, proved to be the dilated frontal sinus and the upper anterior ethmoid cells. The thinned and defective bony orbital wall of the cavity was then broken down with a chisel and strong scissors, and fragments of bone were removed. On further exploring the abscess-cavity with a probe and the little finger, a considerable amount of soft tissue was felt on its inner wall. It was extracted with a pair of polypus-forceps. This substance had all the appearances of mucous polypi, which diagnosis was afterward confirmed by microscopic examination. A part of the wound was left open, a drainage-tube put in, and the wound was covered with charpie. The patient made a good recovery. The correct diagnosis in this case was almost an impossibility before the operation. Even after the defective bony shell of the tumor was broken into, the doctor had no suspicion of the presence of polypi, which were unexpectedly discovered while investigating the extent of the abscess-cavity and the condition of its walls. The frontal sinus and the anterior ethmoid cells must have been shut off from the nasal passages, since there was no discharge from the nose and no ozæna before or after the operation, and the liquid injected into the abscess-cavity never entered the nose. The recovery of the patient was certainly very gratifying. If a fistulous opening had remained, or in case matter should collect again in the frontal sinus, the proper treatment would be to re-establish the communication between the sinus and the middle nasal passage, by breaking through the ethmoid cells and inserting a seton or tube for a sufficient length of time—several months —as W. Bowman and others have done.—*Archives of Ophthalmology*, June, 1880.

Contributions to the Pathology of the Frontal Sinuses.—Dr. H. Knapp reports the following interesting case: The patient, a female, æt. 30, had suffered for two years from attacks of headache, which lasted from several hours to a whole day. The pain sometimes extended along the nose, though she had never shown any symptoms of nasal catarrh. This pain became more intense, and was eventually localized on the left side of her forehead and in the left orbit. The outer half of the supra-orbital margin was red, swollen hard, and painful to the touch; the eye was moderately pushed forward and inward; the pupil responded to light; vision was unimpaired, and the ophthalmoscope discovered only a slight venous congestion of the retina and some circumpapillary œdema. Drs. Knapp and J. Lewis Smith left the diagnosis undecided between dacryo-adenitis and periorbitis, and ordered mercurial ointment to be rubbed into the skin surrounding the brow. The pain continued, the swelling increased, and two days later the presence of a large abscess pointing at the juncture of the middle and outer thirds of the upper lid, about a centimetre below the brow, was manifest. The abscess was opened and a large quantity of creamy pus let out. The patient felt relieved and apparently recovered rapidly. Six days afterward she felt worse again, complaining principally of headache. She grew very feeble, vomited, and lay mostly in stupor. Her pulse varied between fifty and sixty. In this condition she was found by Dr. E. C. Seguin, who was called in consultation nine days after the opening of the abscess. The upper lid slightly drooped, the internal rectus was paretic, and the ophthalmoscope revealed only congestion of the retina. Dr. Seguin diagnosticated an abscess in the left frontal lobe of the brain. Two days later the patient died. The autopsy showed that the frontal sinus had extended laterally so as to separate the cranial from the orbital plate of the horizontal part of the bone. The flat cavity produced in this way had a height of from four mm. to six mm. at the inner upper corner of the orbit, and reached, gradually decreasing, as far as the junction of the middle and outer thirds. The orbital plate was brittle and broken when removed from the cadaver, so that the perforation through which the pus had escaped from the sinus into the orbit could not be demonstrated; but, judging from the place where the swelling first appeared and the abscess pointed, there was no doubt that the perforation of the bone occurred at or near the temporal end of the extension of the frontal sinus. Such an extension of the frontal pneumatic cavity through the diploëtic substance of the roof of the orbit occurs frequently enough in cases of caries of the supra-orbital margin, and this case suggests the idea that pent-up pus in the ethmoid and frontal cells may be the cause of the caries in some of the cases. Knapp does not, however, think of explaining in this way the frequency of caries of the upper orbital margin in children, since the frontal sinuses, according to Dursy and Steiner, develop only between the sixth and eighth years.

That in this case there had been an inflammation with retention of matter in the left frontal sinus, was clearly proved by the periodic attacks of headache starting from the inner part of the left brow. The narrow and irregular communication of the frontal sinus and anterior ethmoid cells with the middle nasal passage, through the upper end of the infundibulum, must have been closed, since the patient did not suffer from nasal catarrah or ozœna. The propagation of the disease into the orbit and brain was a perfect analogue of what is so frequently noticed in retention of matter in the mastoid process. There, also, the narrow exit of the mastoid antrum into the tympanic cavity is closed, periodic inflammations ensue, occasionally an abscess emptying into the drum-cavity or behind the ear gives temporary relief; at last the patient dies, and an abscess is found in the brain-substance, sometimes at a distance from the temporal bone. In the case under consideration the channel by which the inflammation extended to the brain was clear, as there was a necrosed patch of bone in the cerebral plate of the horizontal process of the frontal bone, and the adjacent dura mater was blackened and somewhat wrinkled. The description of the cerebral abscess will be given by Dr. Seguin.—*Archives of Ophthalmology*, June, 1880.

Benzoate of Soda in the Treatment of Gonorrhœal Ophthalmia.—Prof. Dow, of Berne, reports a case of gonorrhœal ophthalmia, which he treated with the benzoate of soda. He was led to try the remedy by his belief that a micrococcus exists in the pus of purulent conjunctivitis, whether of the blennorrhagic or the diphtheritic form. In the case reported, both eyes were affected and threatening speedy destruction. He prescribed a solution of benzoate of soda (1 in 20), one of tannin (1 in 10), and another of tannin (1 in 100), as an eyewash. The first two solutions were dropped into the eye every ten minutes, and the wash was used to remove any discharge as soon as it would appear between the lids. On the seventh day the eyes were practically well, although they did not tolerate broad daylight. A month later they were perfectly well. Dr. Dow has also employed this method of treatment for two years in all cases of ophthalmia neonatorum, with a like success.—*Dublin Journal of Med. Science*, June, 1880.

Salicylic Acid as an Anthelmintic.—Dr. Tlyin has used this acid successfully in a number of cases of tænia. He begins with ℥j. of castor oil in the evening. In the course of the following day the patient takes from ʒ ss. to ʒ j. of salicylic acid, and in the evening another dose of castor oil. Only in a single case was it necessary to repeat the treatment. —*Meditz. Obozrenie*, April, 1880.

Apomorphia in Sunstroke.—Drs. Tomlinson and Murphy call attention to the value of the hydrochlorate of apomorphia in the treatment of sunstroke. In three very severe cases the drug was administered as soon as possible after the admission of the patients to the hospital, $\frac{1}{16}$ grain being sufficient to produce the desired emesis in two of the cases. The vomiting occurred in less than ten minutes after the injection; in no case was there any distressing nausea, but apparently an almost instantaneous evacuation of the contents of the stomach. The temperature was reduced, and the pupils became widely dilated, while sensation and movement returned within half an hour. The skin became slightly moist, and the patient regained consciousness by slow degrees. In each of the cases there was complete insensibility; eyes fixed, pupils contracted to the size of a pin's head, and insensible to light; pulse very full and rapid; breathing shallow, stertorous, and accompanied by moaning; temperature very high (109° in one case), and involuntary evacuation of the bowels. —*The Practitioner*, June, 1880.

The Pathology of Herpes Zoster.—M. Chandelеux, of Lyons, publishes, as a contribution to the pathology of herpes zoster, the notes of a case of zona occurring in the track of the second and third intercostal nerves of the left side in a phthisical subject. The eruption persisted for several months before death. The lungs were extensively diseased, and very adherent to the chest-wall, the adhesion being most firm and dense on the left side, opposite to the point of emergence of the second and third intercostal nerves. The subjacent intervertebral ganglia were notably swollen, nodulated, and pigmented. Microscopically these ganglia showed large tracts of sclerosis replacing nerve-cells and fibres, but it was observed that the bundles of nerve-fibres belonging to the anterior roots were healthy. The tissue in the sclerosed parts was disposed in concentrically arranged bundles, which interlaced with one another, and were surrounded by numerous pigmentary granulations. The outer portions of the sclerosed tracts were infiltrated with small round cells, contrasting with the denser and more organized connective tissue of the central parts. There were but few vessels in the new tissue. The intercostal nerves were hardly, if at all, involved in the morbid change, which is somewhat inexplicable, if the ganglia be considered to be the trophic centres of the posterior nerve-roots. There was no degeneration, no atrophy of nerve-fibres in the intercostal nerves, corresponding to the altered areas in the ganglia, such as might reasonably be expected to be found. No changes were found in the main trunk and ganglia of the sympathetic. The cutaneous lesions consisted of bullæ of varying size, some located between the Malpighian and corneous layer of the epidermis, others between the epidermis and the dermis itself. The contents of the bullæ were granular serous material, blood-coloring matter, etc. The author publishes the details of this case because of the very marked character of the changes in the intervertebral ganglia.—*London Lancet.*

Parasites in Muscle in Typhoid Fever.—Two cases of parasites existing in the voluntary muscles of patients with typhoid fever have been reported to the Pathological Society of London. The first case was that of a young man in St. Thomas' Hospital, who died from peritonitis set up by perforation of a characteristic enteric ulcer. In the pectoral muscle were found what were taken to be parasitic worms, one or more of which were seen in each specimen; apparently, from their movements, they were still alive. Their dimensions were wholly different from those of trichina spiralis, being about a quarter of it in length and breadth. They were thickest in the middle, with one end larger than the other. They resembled nematoid worms both in the proportion of their breadth and length, and in the presence of an interior canal, apparently interrupted by some intervening organ or tissue. The other case occurred in the Seaman's Hospital, and on examination of the muscles the same bodies were found. In neither case, however, were the parasites so plentiful as was at first supposed. They were found in all muscles equally, except in the diaphragm, but they were not uniformly disseminated through a given muscle.—*London Lancet*, April 24, 1880.

General Hygiene and Therapeusis of Posterior Sclerosis.—Dr. Weir Mitchell contributes an excellent article to the May number of the *Philadelphia Medical Times*, on the general hygiene and therapeusis of posterior sclerosis. As regards treatment by drugs, the writer claims to have seen good results from two drugs—nitrate of silver and iodide of potassium—and of these the latter has given the best results. In France there is still some belief in the value of the mineral waters of La Malon in L'Hérault, but the slight experience he has had with them has not been encouraging. The question of hygiene is considered next. There is a period, and a long one, in which the ataxic is able to enjoy life to a considerable extent, before his powers of locomotion fail. It is in this stage of the disorder that it is most important for him to live by certain rules, which are not at all those which should govern healthy people. The great heats of our summers are very hurtful to these patients, and no class of people seem to benefit more than they by changes of climate. The situations which suit them best in summer are moderate elevations, such as the foot-hills of the Alleghanies, or Saratoga, or the Adirondacks. The seaside or cold sea baths are undesirable. The somewhat mysterious group of aerial states which accompany or constitute storms are most distressing to many ataxic neuralgics. Like the traumatic neuralgics some of them can predict storms with certainty, and begin to feel their baleful influence long before the rain belt reaches them. The general sensibility of ataxics to storms and cold makes it, therefore, needful for them to exercise unusual care in avoiding abrupt changes of temperature and in watchfully suiting their dress to the season. As to exercise it may be said that all of this class of persons should zealously avoid fatigue, and that many of them are the better for not walking at all. In such ataxic persons as are at all sensitive to the influence of exercise, any unusual exertion is apt to be followed by slight increase of strabismus, by sense of lassitude, and by definite increase of neuralgia and of the disorders of co-ordination. The patient should be well rubbed once a day. The objects are to excite locally the circulation, to empty thoroughly all the vessels within reach, to flush the whole limb so as to raise its temperature, and to stimulate vigorously the muscles so as to give them, at least for a time, the tone they lack. Ataxics are not especially liable to dyspepsia, but they are forced to take aperients from time to time. A pill of aloes and irridin, or of aloes, ox-gall and belladonna, answers usually, or suffices if aided by an enema. Tobacco has a decidedly hurtful influence on most ataxic patients. It were best avoided altogether. The hygiene of the sexual organs is a far more important matter. In some few cases the loss of virile power comes very early, and is well marked; but the writer knows of many ataxics who have had children after their disease became well marked. At La Malon, where Dr. Privat sees a great number of posterior scleroses, the prohibition of all sexual intercourse is absolute and peremptory.

Affections of the Bones in Leucæmia.—Prof. Neumann, of Königsberg, reports two cases of leucæmia, which he had recently observed, and in which the osseous marrow was ascertained to have undergone marked degeneration. Leucæmic disease of the bone marrow is not commonly recognizable during life, at least such has been the experience of the author and several other German writers. The first case recorded by Neumann was that of a man æt. 41, who was first seen in 1876, when he suffered from a large carbuncle in the right lumbar region. Some time after his recovery from this, he began to develop symptoms of leucæmia, and in 1877 the disease was found to be quite pronounced. The point of interest was the supervention of pain in the left shoulder and sternum, followed, at a later period, by extreme aching in the right thigh. Objective symptoms were not discoverable in any of these localities. At the autopsy the sternal marrow yielded, on pressure, a thick, dirty, brownish looking fluid in great abundance. The right humeral diaphysis showed a dark-red marrow, in which numerous yellowish-green spots, resembling purulent collections, were found to be disseminated. These patches were especially abundant at the external portions of the medullary substance. The marrow of the spongy tissue in the humeral epiphyses exhibited no alteration.

The second case presented no intra vitam symptoms of bone disease, and in this respect resembled the majority of cases hitherto reported. Notwithstanding this, however, the osseous marrow was also found to have undergone considerable changes. In all the bones which could be examined, *i.e.*, the sternum, ribs, and the diaphysis of one humerus, the medullary substance appeared as a pulpy, dirty-red material, resembling pus mingled with blood. In this marrow, as well as in the patient's blood, nucleated red blood-globules and Charcot's crystals were easily demonstrable. Dr. Neumann finally reiterates his belief in the close causal relation existing between these osseous changes and leucæmic disease—a subject which he has previously considered at some length in the *Berlin klin. Woch.*, 1878, Nos. 6, 7, 9, and 10.—*Berlin klin. Woch.*, May 17, 1880.

The Physiological Effects of Erythrophleine.—Drs. G. Sée and Bochefontaine publish the results of a series of experiments undertaken with this drug at the laboratory of the clinic of the Hôtel-Dieu. Erythrophleine, it will be remembered, was discovered in 1876 ("Arch. de Phys. et Soc. de Biol.," 1876) by Gallois and Hardy. It is the active principle extracted from the bark of *erythrophleum guineense*, and was found to be an alkaloid of powerfully toxic action and peculiar effect upon the heart. It was the latter circumstance which induced the authors to believe that the new drug might possess therapeutic properties to be utilized in cardiac affections. The experiments were made on various animals, but the writers describe only the effects produced on rabbits and dogs by the hypodermic injections of fixed quantities of erythrophleine. It was found that one-sixth of a grain administered to a dog weighing eighteen pounds produced no appreciable effect, whereas one-third of a grain proved fatal to a dog weighing twenty-nine pounds. The toxic power of erythrophleine was ascertained to be about equal to that of the amorphous digitaline of Homolle and Quevenne.

The first signs of intoxication consist of slight agitation and restlessness, followed by a period of depression, which is the forerunner of attempts at vomiting, or actual vomiting. These symptoms rapidly disappear, if the dose has not been too large. In addition, the blood-pressure is augmented, the pulse becomes irregular, and its frequency is diminished. This period is characterized by the regularity of the cardiac beat, by the energy of each pulsation, and by the uniformity of the arterial blood-pressure. The latter is no longer modified by the respiratory movements, as is normally the case. Following this period, there comes a stage of extreme feebleness of the pulse, with marked acceleration of its beat. Respiration again causes oscillations in the blood-pressure, which gradually diminish, the heart's action grows more and more feeble, ceases momentarily, is again resumed, and finally stops altogether, while arterial pressure sinks to zero.

Respiration appears to be directly influenced by erythrophleine, and at the same time is indirectly modified by the cardiac effects just described. At first the respiratory movements are retarded and become more ample. In the final stage of intoxication, when the heart beats with great frequency, the breathing becomes very energetic, and the number of respirations is considerably increased. Sometimes respiratory movements continue for a short time, even two or three minutes, after cardiac action has ceased.

Faradic excitation of the peripheral portions of the pneumogastric nerves in the cervical region did not interfere with the heart's action. Hence it seems that the cardiac inhibitory action of this nerve is paralyzed by the drug. Stimulation of the cephalic portion of the nerve, in an advanced stage of intoxication, did not increase the frequency of the pulse (as it normally does), but raised the arterial tension. After the animal died the heart was found in diastole, and generally its electric contractility remained intact. The writers' experience with this new drug, in the treatment of heart disease, will be submitted to the Academy at a later period. We may expect some valuable facts to be brought to light by these indefatigable investigators.—*La France médicale*, June 16, 1880.

The Causes and Treatment of Leucorrhœa in Children.—M. Bouchut recently delivered a clinical lecture on this affection, which is of greater frequency than is generally supposed. Among the causes of leucorrhœa in children, he placed in the first rank vulvar irritation, from whatsoever cause. Under this head lack of cleanliness deserves the foremost place, as many mothers, rich as well as poor, believe that daily ablutions of the genitals are unnecessary. Bouchut, however, claims that the female glands, like the preputial glands of the male, furnish a secretion, which, when allowed to accumulate, invariably causes irritation, and thus gives rise to leucorrhœa. Onanism and attempted violation are enumerated among the local causes of leucorrhœa. Constitutional influences, such as the various diatheses, are also said to be of etiological importance. The treatment is both local and general. Under the former heading Bouchut mentions: first, the greatest possible cleanliness of the affected parts, to be obtained by frequent washings with mildly astringent lotions; and, second, the alteration of the diseased surfaces by lotions or hip-baths of a $\frac{1}{30}$ % solution of corrosive sublimate, or by a $\frac{1}{2}$ % wash of carbolic acid, or by the application of weak silver nitrate solutions. After each washing a pledget of charpie, dipped in coal-tar, or covered with the ointment of the red oxide of mercury, should be placed between the labia. Various medicated baths are also serviceable. The general treatment varies with the diathesis of the given case.—*Gazette obstétricale*, June 20, 1880.

A New Method of Treatment for Varicose Ulcers.—Dr. F. Borel-Laurez, surgeon to the Providence Hospital, at Neufchatel (Switzerland), has published what he considers a simple and effectual method of treating varicose ulcers. This method consists in simply powdering over the surface of the ulcer with charcoal. A piece of charcoal is heated to incandescence in a furnace or stove, and then allowed to cool slowly. Those particles which are not completely charred are put aside, and the rest is ground between two sheets of rough paper. until a fine powder results. Previous to use, this is passed through a sieve. Before employing the powder, the ulcer is washed with tepid water, dried, and all hemorrhage carefully arrested. Then the charcoal is spread out over the entire surface of the ulcer by means of a spatula, and covered with a compress secured by a bandage, which is allowed to remain in place for two days. The powder is then washed off with a jet of water, and the former process repeated. This is continued until cicatrization has well advanced, and the ulcer presents the appearance of a mere abrasion of the skin. Then, to avoid all friction, which might interfere with proper epithelial development, the charcoal is replaced by a piece of Lister's protective, which is to be renewed every second day. When the cicatrix has formed, compression is practised by enveloping the leg with moistened bandages up to the knee. This is kept up until the cicatrix is firm enough to bear the friction of shoes and stockings.—*Le Réveil médical*, June 5, 1880.

Abortive Treatment of the Inflammatory Stage of Gonorrhœa.—Dr. Kuechenmeister, of Dresden, has found aqua calcis, when properly diluted, extremely serviceable in the first stage of acute gonorrhœa. He uses it in the proportion of one to four of water, and employs injections, beginning about the fourth day after an impure coitus, and repeated every hour or hour and a half during the entire day. Usually, the acute inflammatory symptoms subside after about twenty-four hours, but the copious, painless, discharge from the urethra is not lessened, and the treatment, although aborting the first stage, must be replaced during the second stage by the ordinary astringent therapy. Dr. Kuechenmeister prefers, for the latter purpose, a solution of pure alum (10) in water (150), to be injected two or three times daily. He also advises great care in the handling of the lime-water, to prevent its spoiling by the formation of carbonate of lime, through the access of air. The bottle containing it should, therefore, be tightly stoppered, and only enough fluid removed to suffice for one injection. Moreover, none of the fluid removed should be returned to the bottle.—*Deut. Med. Woch.*, June 5, 1880.

Nocturnal Terrors in Children.—An analysis of Dr. Wertheimber's description of this malady, by Dr. Gottardi, contains the following therapeutic points: All causes of nervous excitement should be carefully avoided, especially during the hours immediately preceding bed-time. Bland and scanty supper, without stimulating drinks, such as tea or coffee. A room sufficiently large and moderately lighted, in order that the child may, on waking, immediately recognize the surrounding objects. Quinine and bromide of potassium, to the latter of which some chloral may be added, are the drugs which have proved most serviceable. The general health of the child or infant should also be improved by a suitable regimen, including tonics, open air exercises, and gymnastics.—*Arch. Méd. belges*, May, 1880.

Tendinous Suture in Transverse Fractures of the Patella.—In referring to the method of Kocher (*Centralbl. f. Chir.*, No. 20, 1880), which is intended to replace Malgaigne's method of employing a clamp in patellar fractures, Dr. Volkmann takes occasion to give his own manner of treating these accidents. It resembles Kocher's, inasmuch as both gentlemen employ a tendinous suture. But Volkmann believes that it is not necessary to pass the silver wire through the joint, as has been recommended by Kocher. It will suffice, he thinks, to pass a single loop through the tendon of the quadriceps, and another through the ligamentum patellæ, taking care to observe all the necessary antiseptic precautions. The suture is to remain in situ until complete union will have occurred. To insure a perfect contact of the fractured surfaces, the joint should be punctured, and any existing fluid or blood withdrawn. This should be done as early as possible, and before the application of the suture.—*Centralbl. f. Chir.*, June 12, 1880.

Intermittent Articular Dropsy.—Dr. Seeligmüller records a case of intermittent dropsy of several joints, occurring in a patient who was under his observation since 1875. The disease existed twenty-five years. The patient had had an attack of typhoid fever in 1846, a pneumonia in 1849, and was seized in the same year with intermittent fever, lasting seventeen weeks. In 1855 he suffered from a painful tension, affecting alternately the left knee- and hip-joints, lasting about one day or thirty-six hours, and occurring every twelve days. The attacks were accompanied by moderate swelling of the knee-joint. After continuing for some time they gradually disappeared, but returned again with greater severity in 1861. This time the patient was afflicted with them for three months. He suffered again in 1865, then in 1872, and since the year 1875 has never been quite well. A very severe attack, with considerable articular tumefaction, was observed in 1879, and resisted all medication. The most prominent symptoms of these seizures were the painfulness and the swelling of the knee-joint. Severe attacks would depreciate his general health, but a rise of temperature was never observed. The usefulness of the joints had not been impaired.

In addition to this case, Dr. Seeligmüller mentions twelve other cases, which he has collected from various sources. All these cases have certain symptoms in common: an otherwise healthy adult is attacked at regular intervals, without prodromal symptoms and without assignable cause, by a painful tumefaction of one or both knee-joints. The absence of all inflammatory symptoms, as well as of any febrile movement, appears to be characteristic of these seizures. The swelling is marked by a stage of increase (stadium incrementi), by a stage of stability (stadium acmes), and by a stage of decline (stadium decrementi). The rhythm of recurrence varies from an eight days' type to one of four weeks' interval. Quinine and arsenic have been recommended, but an effectual and reliable therapy has not yet been found. Seeligmüller finally admits that the true nature of these attacks is not yet definitely known, although, personally, he is inclined to regard the disease as a vaso-motor neurosis.—*Centrabl. f. Chir.*, June 19, 1880.

Inoculability of Tuberculosis on Animals.—M. Toussaint has decided, by means of a series of experiments, a question that has been long in doubt, viz., the possibility of the tubercular infection of animals by means of ingestion and inoculation. It is an admitted fact that tuberculosis is almost unknown among swine. M. Toussaint, however, has been able to produce tuberculosis in the pig almost at will. In some of the experiments the animals were made to eat the lungs of tuberculous cows; in others, the fluid scraped from the cut surface of tubercular nodules was injected subcutaneously, and in still others the blood of a tuberculous pig was injected; under all these different conditions the tubercle was always reproduced. The lesions thus produced were those of acute tuberculosis, and they always proved fatal in a very short space of time—a few weeks. The tuberculosis of swine is analogous to the galloping consumption of man.—*Jour. de méd. et de chir.*, May, 1880.

Benzoate of Soda in Whooping-Cough. — Dr. Tordeus, of Brussels, writes that he has prescribed the benzoate of soda in a number of cases of whooping-cough, and that in all the cases the parents reported that the coughing fits began to diminish in force and frequency after one or two days of treatment. He gives four grains of the salt every hour to a child of two or three years. The drug seems not alone to diminish the force and frequency of the paroxysms, but also to exert a favorable influence on the mucous membrane of the respiratory tract, and to prevent the development of serious pulmonary complications.—*Journal de méd., etc., de Bruxelles*, May, 1880.

THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., Editor.

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THE DETERIORATIONS, ADULTERATIONS, AND SUBSTITUTIONS OF DRUGS.

In a report recently made to the National Board of Health on the the subject of deteriorations, adulterations, and substitutions of drugs, Dr. C. Lewis Diehl has presented a large number of facts which should have much interest both to physicians and pharmacists. As preliminary to certain elaborate statistical tables which he has compiled, Dr. Diehl gives a brief history of the drug market in this country. It is shown that, since the law of 1848, prohibiting the importation of impure drugs, there has been an enormous amount of adulterated articles kept out of the country. Such protection to home industries, naturally stimulated the business of adulteration among American manufacturers. Through the persistent efforts largely of the American Pharmaceutical Society, however, frauds in the drug market have been considerably checked, and its present condition is, according to Dr. Diehl, unqualifiedly fair. By this is meant not that poor and adulterated drugs are absent in the market, or that inferior medicines are not dispensed in our pharmacies; but that persons who really wish articles of standard quality have very little difficulty in getting them. This qualification, of course, applies especially to pharmacists. When it comes to stating what patients can get and what is the quality of the drugs actually given out to the public from the retail stores, we doubt whether so favorable a view can be taken. There are a good many elements tending to make the prescription matter of the average retail druggist below the degree of quality which may be designated as "fair." The law against importing inferior drugs is, confessedly, in many ports not carried out rigidly or intelligently. The desire of the patient to get his medicine at the lowest rates, and the desire of the druggist to make all the money he can, tend, with an immense force, to encourage adulterations in the preparation of drugs at home, as well as substitutions and deteriorations in the articles sold at the shops.

The tables given by Dr. Diehl show some of the principal inferiorities in drugs which have been discovered and reported upon in the current literature of the past thirty years. In commenting upon these statistics, some facts in regard to forms of preparation most frequently adulterated are given. Thus it is stated that powders present the most successful field for sophistication; and, owing to their physical condition, it is often difficult to detect the foreign admixture. So systematic has been the practice of adulterating powdered drugs, indeed, that in many drug mills regular formulæ for the preparation of pure and genuine powders have been, and probably still are, in use. As an example, a popular formula for powdered opium was: "Turkey opium, 50 pounds; Egyptian opium, 25 pounds; biscuit, 40 pounds." Rhubarb is a drug which, in a powdered form, it has been customary to adulterate. The volatile oils have been, and still are, shamefully adulterated. All the cheap grades of the tarry oils, of lavender, rosemary, and red thyme have been greatly adulterated with turpentine. The galenical preparations of the shops are not well spoken of by Dr. Diehl; and he corroborates the fact, which every physician must know, that infusions and decoctions are often made simply by mixing the fluid extract with water. The worst that can be said of tinctures, fluid extracts, and solid extracts is that they are generally liable to vary in strength.

It is, of course, hardly possible to get a very definite idea of the commercial quality of the medicines as dealt out over the counter. We can tell something in regard to this, however, by a study of the drug market, and by comparing the reports of individuals or committees who have made special examinations into the matter. From tables thus compiled we learn that, out of a list of two hundred and twelve drugs, which includes about the whole materia medica, one is pronounced very good; seventy-three good, fifty fair, thirty-three variable, and nine very indifferent. The quality of the remaining forty-six depends upon various conditions, but good articles can for the most part be obtained if the buyer desires it.

A survey of all the facts presented leads us to one at least very plain conclusion: that the purity of our drugs depends almost entirely on the honesty of our druggists. Good drugs are obtainable if they will only be obtained. We should by no means, however, secure pure drugs by simply preaching morality. The druggist cannot be expected to ignore the laws of business and make himself an isolated spectacle, of moral grandeur. There must be laws, better executed than the present, for preventing foreign importation and home manufacture of inferior drugs; there should, we believe with Dr. Diehl, be legal restrictions upon the profession of pharmacy, which would secure to it a higher educational status and a more definite responsibility to the state. Finally, and this is the part which especially concerns medical men, it should be the practice of physicians to see that their prescriptions are filled with pure drugs. This is a point about which many physicians are much too careless. And it is one which, if actively attended to, would do more than all else to secure purity in the drug market. If physicians insist that their patients get their medicines at reputable places, even though the price is slightly greater, such reputable places will increase in number. It would be easy to teach the patient that establishments which advertise to undersell various staple drugs are unsafe. Such instruction and a more active attention to the proper filling of his prescriptions, form a part of the duties of the physician.

RECENT DENTAL CONVENTIONS.

The activity among the dentists has been unusually great during the past few weeks. The American Dental Association held an annual meeting at Boston, August 4th, 5th, and 6th; the American Dental Convention and the Southern Dental Association met in this city, August 10th to 14th. These two latter associations united to form a National Association under the name of the Dental Association of the United States. This association is expected to be the representative body of the American dentists. It will hold annual meetings in different cities, and quadrennial meetings in Washington, where its permanent secretary is to reside. The Association aims at high scientific work, and will arrange at once to secure governmental recognition to the dental profession, and help from it in studying ethnological peculiarities in their relation to dentistry. The Smithsonian Institution promises aid in this direction.

A vote was passed making it a requisite for membership that the applicant should have credentials from a State society, or the diploma of a reputable dental college. This latter regulation, it is expected, will give an impulse to dental education.

The new association was not formed without some opposition. The American Dental Association has tried to have a national character, and it refused to allow its organization to be absorbed in any other. But its work and membership, if we may believe the reports, have been of a too local character. It was therefore decided to form an entirely new society. Any genuinely scientific work done by the dentists will be of value to the medical profession. If this new association, therefore, secures, as it promises, the performance of such work, its creation will be a matter of congratulation for us.

We have examined the reports of the various meetings above referred to, and confess to being greatly disappointed in our hopes of finding any good scientific work performed. In the American Dental Association there were papers devoted to the relative merits of cohesive and non-cohesive gold, the respective values of which, it seems, ought to have been settled long ago; the use of belladonna to lessen the flow of saliva, catarrh in its relations to dentistry, and the evil effects of the various patent amalgams, were some of the topics presented. We noticed a paper on Anæsthesia, which was defined to be a "paralyzation of the nervous tissue." In a subsequent discussion on the subject, the question as to whether nitrous oxide oxidized the blood, or prevented its oxidization, was discussed. The fact was brought out very strongly that the Association did not know anything about the matter whatever. A practical movement was made in the appointment of a committee to arrange for an International Dental Congress. Considerable time was devoted by the American Dental Association to the discussion of dental education. Of course the question whether dentistry was a branch of medical science was fully debated. We quote and commend the remarks of Dr. Barrett on this point: "We dentists," he said, "should be honest. We are not medical men, and are not acknowledged as such by physicians. There is no way by which a student can become a member of the medical profession, except through a medical college." The Association urged that the dental colleges require a higher preliminary medical education and two courses of instruction.

We find even less evidence of work at the New York conventions than at that held in Boston. The daily papers perhaps gave undue prominence to certain parliamentary infelicities, but these were certainly much too frequent for the credit of the societies.

Most of the time was given to excursions and the business of organizing the new association. An interesting paper was read before the Southern Dental Association, on Mercurial Poisoning Caused by Sucking the Amalgam of a Mirror. Not much else of general scientific value, however, was presented.

It will probably strike any one who reads the reports of the dental conventions to which we have been referring, that American dentists are persons sadly deficient, as yet, in scientific as well as in parliamentary knowledge. Their meetings have, however, shown a commendable appreciation of deficiencies and desire for progress. And considerable work was done which will eventually secure scientific and educational advancement in dentistry.

REGULATING THE PRACTICE OF PHYSIC.

We take this occasion to call the attention of our readers, especially such as reside in this State, to the act regulating the licensing of physicians and surgeons, published in full in another column. On a former occasion we gave a full synopsis of the provisions of said law, and explained in some detail the purposes for which it was enacted. It is only necessary at this time to give the simple text of the law, in order that the physicians of this State may understand what is expected of them. It will be seen that each and every one practising physic must, on or before October 1, 1880, register in the Clerk's Office of the county in which he resides, his name, residence, place of birth, "together with his authority for so practising physic and surgery," and that the "fee for such registration shall be twenty-five cents, paid by the person so registering." Further, it will be seen that such as fail to register will be subject to a fine of fifty dollars. Although this may be considered by many practitioners as somewhat of a burden, it should nevertheless be cheerfully borne, in view of the good to be accomplished in the direction of suppressing all kinds of quackery, as tending to protect scientific medicine. We are glad to learn that in many of the different towns throughout the State the registration is far advanced, and that there is shown a general willingness to comply with the provisions of the law. It is not necessary to present a diploma to the clerk, as an affidavit as to time and place of graduation will be accepted in lieu of it.

Although it must be admitted that the law is by no means a perfect one, it is the best that can be obtained for the present, and the profession throughout the State should do its utmost to aid in carrying out its designs.

A Thousand Ovariotomies.—On June 11th, Mr. Spencer Wells performed ovariotomy for the one thousandth time. Out of his first 500 cases, 127 died, a mortality of 25.4 per cent. Of the next 300 cases, 77 died, giving a mortality of 25.6 per cent. Of the next 100 cases, 17 per cent. died; and of the last 100 cases, 11 per cent. died. Mr. Wells began to use antiseptic precautions shortly before the beginning of the last 100 cases. The grand total of all the operations gives 768 recoveries and 230 deaths. According to certain calculations made on the basis of life insurance expectancy, 22,272 years of human life have been added to society by the direct agency of Mr. Spencer Wells.

Kindergartens as a Cause of Myopia.—It is asserted that a good deal of the play-work at kindergarten schools taxes the eyes of the child to an undue extent. Examples of this are, the pricking holes along a tracing on a paper; or braiding bright-colored bands of paper; or the sewing fine silks along other fine tracings. Myopia is quite as likely to result from this kind of work as from study.

A Homeric Physician.—Dr. Dunbar, a physician in a small town in Scotland, has written an elaborate concordance to the Odyssey and Hymns of Homer. Mr. Gladstone at once recognized the value of the work, and has placed the doctor on a pension of £80 a year. Dr. Dunbar recently published an article on the Medicine and Surgery of Homer.

Reports of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Sixth Annual Meeting, held in New York, June 16th, 17th, and 18th, 1880.

Wednesday, June 16th—First Day—Afternoon Session.

The Association convened at the Academy of Medicine, in the city of New York, at 2.30 p.m., and was called to order by the President, Dr. F. T. Miles, of Baltimore.

The names of the following gentlemen were presented for membership: Drs. Graham M. Hammond, of New York, Isaac Ott, of Easton, Pa, W. R. Birdsall, of New York.

The first paper was by Dr. William A. Hammond, of New York, entitled

MYXŒDEMA, WITH SPECIAL REFERENCE TO ITS CEREBRAL AND NERVOUS SYMPTOMS.

Myxœdema was a disease which had for its pathoanatomical feature the deposit of a mucoid substance in various parts of the body, especially in the skin, or a degeneration and proliferation of the connective tissue. Probably both these conditions coexisted in some tissue. The tissues were resilient and not boggy, as in ordinary œdema, though the resulting appearance was very much the same. The face resembled the appearance resulting from toxic effect of arsenic. The fingers were clubbed at their extremities. The temperature was always below normal. The disease thus far had occurred in adult women. The cerebral and nervous symptoms appeared to be very decided. Dr. Hammond gave a detailed account of a case which had come under his observation, both as to the general appearance of the patient and the general symptoms presented. Dr. Hammond was of the opinion that the mental symptoms were the result of primary brain disease, probably to the deposit of the mucoid tissue around the cells of the nervous centres. He considered, however, that both central and peripheral disturbances were necessary to give rise to the phenomena of myxœdema.

The paper was discussed by Drs. Jewell, Miles, and Hammond.

SWOLLEN AXIS CYLINDERS IN MYELITIS—SPECIMENS.

Dr. S. G. Webber, of Boston, presented some specimens to be looked at under the microscope. A history of the case from which they were taken was given. The specimens presented very well the enlarged axis cylinders. There were the other appearances of myelitis in the dorsal region, and nearly the whole length of the spinal cord was softened so that sections could not be made. As many as eleven or twelve enlargements have been observed upon one axis cylinder. The medullary sheath seemed to have disappeared, and when much swelling existed there was no appearance of myelin whatever. In transverse sections all exposed axis cylinders appeared in groups. Sometimes these enlargements occurred in chronic cases, but never in so marked a degree.

Dr. Jewell had seen quite a number of acute or more or less acute cases of this kind within the last year or two. Several of his cases of acute myelitis were produced in much the same way; they were due mainly to exposure. One case which came under his notice had been treated with large cases of ergot, under the idea that the blood-vessels would be contracted and thus relieve the patient; instead of this, however, he got worse. Dr. Jewell placed him on large doses of strychnine and increased the doses almost up to toxic ones. The man had improved so that now he could almost walk. He had given as much as one-tenth of a grain of strychnine three or four times a day. He insisted upon the patient having absolute rest.

Dr. Hammond agreed as to what had been said in regard to rest, but what Dr. Jewell said in regard to the use of strychnine, he confessed, shocked him. He did not see how anybody could keep quiet who was taking one-tenth of a grain of strychnine four times a day. It struck him as a very dangerous practice.

Dr. Gray said that a point that interested him was, when to stop rest. It was undoubtedly of benefit in the early treatment of myelitis, but he had seen cases where he believed it had been carried too far. He thought it difficult to determine the effect of strychnine in these cases, for they had not been studied particularly. He had had excellent results during the use of iodide of potassium, but he had not been able to state that it was the result of the drugs.

Dr. Seguin referred to a patient in whom complete paralysis developed within ten or twelve hours after the first symptoms. Microscopical examination showed destructive changes rather than swelling; a great many of the ganglion cells had undergone a vacuole formation. He thought we were approaching a classification of acute myelitis into two forms, one an active or parenchymatous, and another where the connective tissue was primarily affected, and in which we found those areas of disintegration. He did not believe that any amount of strychnine, ergot, or iodide of potassium would cure destructive myelitis. Dr. Jewell had not given us the symptoms which enabled us to judge of the treatment, and in particular the muscular reactions to faradism. If his cases were those in which the anterior horn was involved, it was not surprising that no muscular contraction occurred under strychnine. A few of these cases of affection of the anterior horns got well spontaneously.

Dr. Putnam believed that it was recognized that poisons acted very differently upon diseased nervous centres from what they did upon normal tissue, and he thought that in speaking of strychnine, we were using as a basis nothing more than physiological experiments. Dr. Hammond had never seen a case of myelitis which was not aggravated by the administration of strychnine. He suggested that the effect produced in Dr. Jewell's cases might be due to the administration of a larger dose than usual; opposite effects were produced by the same drug by varying the size of the dose.

Dr. Bartholow thought Dr. Jewell's cases were syphilitic, and upon that theory we could account for the rapid improvement under the iodide of potassium and the beneficial influence of strychnine. After the syphilitic products were removed by the iodide of potassium the tissues needed the subsequent stimulus of strychnine. He believed, however, that strychnine could only aggravate in acute myelitis.

Dr. Jewell said the point he wished to make was, that after the case had progressed to a certain extent, we might begin the use of strychnine, and that too, much earlier than was ordinarily supposed possible. His cases were not syphilitic.

The paper was farther discussed.

Dr. J. J. Mason, of Newport, R. I., next proceeded to read his paper, entitled:

MICROSCOPICAL STUDIES ON THE CENTRAL NERVOUS SYSTEM OF REPTILES AND BATRACHIANS—DIAMETERS OF THE NUCLEI OF THE CELLS IN THE SPINAL CORD.

Extended observation enabled him to formulate the following law which he predicted would be found to hold true in all vertebrated animals:

"The nuclei of the cells in the inferior (anterior) horns, in the two enlargements of the spinal cord, have averaged diameters which are proportional to the muscular power of the corresponding extremities." From observations made he inferred that the nucleus of a motor-cell grows with the muscular substance which it is supposed to enervate.

Dr. Spitzka remarked that it had long been known that cells in different parts of the cord differed in size. He did not believe that any fixed relation could be established between the cells and the muscles through which they were distributed.

Dr. Hammond inquired if reflex excitability was not greater in the posterior group of cells than in the anterior?

Dr. Mason thought not.

Dr. Hammond took exceptions to this and declared that reflex excitability was greater in the sole of the foot than in the palm of the hand, and the hind legs than in the fore legs.

Dr. Mason remarked that as far as sensation went it had nothing to do with the subject of the paper.

There being no further discussion, Dr. Robert Bartholow, of Philadelphia, read a paper entitled:

THE TRANSFER OF SENSATIONS.

Two years ago Dr. Bartholow, while practising hypodermic injections into the painful points in a case of sciatica, had his attention called to the fact that if a patient felt pain in the arm of the same side simultaneous with the pain at the point of puncture, the patient always referred the pain to the corresponding position on the upper member of the same side, and never on the other side. Further investigation was now resolved upon, and to this end an ordinary sewing needle of large size was used to develop the initial pain, and ice wrapped in oil silk to produce the local lowering of temperature. It was found that the fall of temperature produced by the refrigerations of a member affected the corresponding region of the same limb on the opposite side, and that these deviations of temperature were never greater than one-half of a degree. The explanation was to be sought for in the connection of the vasomotor system with the spinal. The experiments which were submitted indicated that the transfer of painful sensations were limited to the same side. Pain of considerable severity, though not prolonged, was necessary to develop secondary pain.

Dr. Putnam alluded to some experiments he performed upon the frog, in which he irritated one foot of the animal, and caused the blood-vessels in the other foot to contract. Ice applied to one ear of a rabbit would cause a temporary rise of temperature in the other.

Dr. Beard had noticed, in applying the faradic current to the right leg, its effects were also observed on the corresponding site of the left leg.

This condition he considered pathological rather than physiological.

The paper was further discussed by Drs. Jewell, Spitzka, and Miles.

First Day—Evening Session.

The Association was called to order by the President at 8.30 P.M.

The first paper was by Dr. Landon Carter Gray, of Brooklyn, on

THE USE OF QUININE WITH THE NERVOUS SEDATIVES.

He maintained that quinine, when given with the bromides, belladonna, and hyoscyamine, lessened the depression that these drugs usually produced, while it actually increased the effect of these medicines over the diseases for which they were given, as epilepsy, mania, etc., whilst in the conjoined use of quinine with the nervous sedatives, this curious fact had not been hitherto observed.

Dr. Jewell said that whenever there was nervous or muscular weakness in epileptic patients, he was accustomed to use strychnine, and found it exceedingly beneficial in combating the depressing effects of a prolonged course of the bromides. It did not increase reflex irritability.

Dr. Bartholow said that, as a rule, bromides were not as efficient in weak and anæmic patients as in others, unless they were combined with tonics; and chloral had the opposite effect upon the brain from the bromides, causing hyperæmia rather than anæmia.

Dr. Seguin quoted Brown-Sequard, and said that he had often impressed him with the danger of giving quinine in epilepsy, believing it was liable to precipitate the attack. He gave strychnine. Dr. Seguin had given quinine in some cases without apparent bad effect.

Dr. Miles expressed the opinion that there was no danger from bromism.

Dr. Spitzka recited the history of a case which led him to the conclusion that bromides did good only in emergencies.

Dr. Hammond thought that every atom of quinine added to a dose of the bromide lessened the effect of the bromide upon the patient. He did not know of a single combination that was beneficial to the patient, except the combination of Fowler's solution with bromide to prevent acne. When the effect of the bromides was injurious the best way was to reduce the dose. He had had four cases of death from the use of bromide. The combination of iron with bromides in epilepsy, he thought did harm.

Dr. Spitzka remarked that not for five years had he prescribed the bromide of sodium; he gave the bromide of potassium.

Dr. Seguin said he had found iron to work well in practice. He said that one of the chief actions of strychnine was to increase arterial tension; hence its efficacy in bromism, one of whose chief elements was weakening of the heart, and lowering of the arterial tension.

Dr. Hammond had seen the best results from the use of a certain amount of bromide of sodium in a certain amount of water.

Dr. Spitzka remarked that there could be no doubt about the antagonism of tonics and bromides; quinine reduced the action of the bromides.

Dr. Seguin recommended the dilution of each dose of the bromides with Vichy water. It covered the taste somewhat. For poor patients, a pinch of soda in the water would do very well.

The next paper read was by Dr. S. G. Webber, of Boston, upon

WATER AS A PROPHYLACTIC AND A REMEDY.

Many people had a notion that it was injurious to drink at meals, but a moderate quantity of fluid taken at meal-time was rather beneficial than otherwise. A large class of patients were affected with symptoms of an indefinite character—a vague unrest, showing itself by discomfort or even pain, sometimes in one place, sometimes in another. They were usually subject to constipation, often had an unhealthy hue of the skin. They were frequently classed as hypochondriacal or hysterical. There was no well-defined disease. These patients usually drank too little water. The waste of the tissue-changes in the system must pass into the blood, and could only leave the system in a state of solution. During comparatively good health, the amount of blood was maintained at nearly the same figure, and only so much water would be parted with through the skin, lungs, and kidneys as could be restored from other sources. If too little water was ingested, the perspiration would be slight, the elimination of urine would be diminished, and the excretion of waste material would be lessened. The blood would be continually saturated, or nearly so, with the results of disassimilation. The removal of the waste of tissue-changes was not accomplished with sufficient regularity, and the tissues became clogged with used-up material, and nutrition was interfered with. The balance each day against health was very slight; but after a time there was such an accumulation that unpleasant symptoms were developed. If the person continued to eat heartily, either the surplus food passed off by the intestines, or was deposited in the shape of fat, the nitrogenized portions assisting to load the urine with urea and the urates. Let such a person drink a large amount, and the blood, having a sufficient supply of water, more urine would be secreted, the loss made good to the blood by absorption, and a larger amount of waste products would be taken up to be eliminated; more urea or phosphoric and sulphuric acids passed off by the urine, which was increased in amount, and there was more disintegration of the tissues. This last was made up by new material, so nutrition was increased. The doctor found that neurasthenic patients did not drink enough.

Dr. Beard remarked that he had found thirst a prominent symptom of neurasthenic patients. He had been using Summit water with good results. He used the bromides alternately with tonics and a free supply of water. The plan was very satisfactory.

Dr. Webber said that patients who drank no more than a pint or twenty ounces of water per day, had told him that they were not thirsty, and were surprised when he told them to drink more water. These directions being complied with, the patients, in the course of the week, developed thirst, and drank as many as three pints a day.

SPHYGMOGRAPHIC TESTS.

Dr. James A. Putnam, of Boston, made brief mention of some experiments he had made in connection with Dr. Bowditch, in testing Pond's Sphygmograph. He had substituted a spring for the weight usually used, and found the instrument to work better.

Dr. Putnam then read a short paper on

STRETCHING THE FACIAL NERVE FOR SPASM.

From experiments on dogs, he had made up his mind that stretching of the nerve by means of a hook was the best plan; and, secondly, that it was best to let the patient come partly out from under the influence of the ether, and then pull just enough to cause a slight, immediate effect, with the expectation that no further bad effect would be produced.

THURSDAY, JUNE 17TH—SECOND DAY—AFTERNOON SESSION.

The Association was called to order at 2.30 P.M., by the President.

REPORT OF THE COMMITTEE ON NOMINATIONS.

Dr. Jewell presented the report of the nominating Committee, which was as follows: President, Dr. Roberts Bartholow, of Philadelphia; Vice-President, Dr. John C. Shaw, of Brooklyn; Secretary and Treasurer, Dr. E. C. Seguin, of New York; Councillors, Dr. S. G. Webber, of Boston, and Dr. Frank P. Kinnicutt, of New York. The above-named gentlemen were duly elected.

The Council reported favorably upon the candidacy of Dr. G. N. Hammond, of New York, and Dr. Isaac Ott, of Easton, Pennsylvania; elected.

The first paper of the afternoon was by DR. GEORGE M. BEARD, of New York, entitled

EXPERIMENTS WITH THE "JUMPERS" OR "JUMPING FRENCHMEN" OF MAINE.

This June he had visited Moosehead Lake, and found the jumpers and experimented with them. He found that what had been claimed was true, and more than true. One of the jumpers, while sitting in his chair with a knife in his hand, was told "Throw it," and he threw it quickly, so that it stuck in a beam opposite; at the same time he repeated the order to "throw it" with a cry, or utterance of alarm, resembling that of hysteria or epilepsy. He also threw away his pipe when filling it with tobacco, when he was slapped upon the shoulder. Two jumpers standing near each other were told to strike, and they struck each other very forcibly. One jumper, when standing by a window, was suddenly commanded by a person on the other side of the window to "jump," and he jumped straight up, half a foot from the floor, repeating the order. When the commands are uttered in a quick, loud voice, the jumper repeats the order; when told to strike, he strikes; when told to throw it, he throws it, whatever he has in his hands. Dr. Beard tried this power of repetition with Latin and out-of-the-way English words, and the jumper repeated or echoed the sound of the word as it came to him, in a quick, sharp voice; at the same time he jumped, or struck, or threw, or raised his shoulders, or made some other violent muscular motion. They could not help repeating the word or sound that came from the person that ordered them, any more than they could help striking, dropping, throwing, jumping, or starting. All of these phenomena were, indeed, but parts of the general condition known as jumping. Other sudden sounds, not proceeding from human beings, gave rise to the same phenomena. All the jumpers agree that it tires them to jump, and they dread it; but they were constantly annoyed by their companions.

This disease was analogous to the mental or psychical hysteria, the so-called "servant-girl hysteria," which was so often observed during the epidemics of the Middle Ages. It was a transoidal condition—a temporary trance, induced by reflex irritation and the emotion of fear. In a certain sense, we were all jumpers; an alarm of fire in a crowded building would have the same effect upon very many of us, producing trance with convulsive movements. An approximative analogue was to be found in the "Jerkers" or "Holy Rollers," those who, under religious excitement, rolled upon the floor, as observed in Northern New Hampshire; but the phenomenon of jumping differed from the above analogues: first, in the temporariness and momentariness of the phenomenon; and, second, in the persistence of the liability. Psychologically, these jumpers were modest, quiet, retiring, deficient in power of self-assertion and push. Women were rarely jumpers. Jumping was hereditary, and restricted mostly to a class of people in the northern part of New Hampshire and Maine, and in Canada. The disease was probably an evolution of tickling—the habit of tickling each other in the woods. In regard to prognosis, Dr. Beard said: "Once a jumper, always a jumper." Dr. Beard claimed that his theory of trance, as explained in his work upon that subject, explained this phenomenon of jumping.

The paper was discussed by Drs. Gray, Jewell, and Beard.

CERVICAL PACHYMENINGITIS.

DR. V. P. GIBNEY, of New York, read a very valuable and interesting paper upon this subject, which consisted of the detailed histories of three cases occurring in children.

DR. PUTNAM asked for more symptoms, which would enable one to differentiate between pachymeningitis cervicalis and Pott's disease. He wished to know whether it was possible to distinguish between the two, especially when there was no deformity.

DR. GIBNEY said that it was impossible to make a differential diagnosis at one examination. As a rule, you did not get spinal tenderness in Pott's disease, whereas this was present in pachymeningitis. If you had paroxysms of torticollis, you might be sure that the case was not one of Pott's disease. The paraplegia was alike in the two diseases, but there were very few cases of cervical paraplegia in Pott's disease. You could examine the posterior wall of the pharynx, in most cases, very well, and thus satisfy yourself in regard to the existence of bone disease.

Next followed the reading of a paper by DR. WM. A. HAMMOND, of New York, entitled:

THALAMIC EPILEPSY.

Dr. Hammond was convinced that there was no true epilepsy without loss of consciousness. In this regard he did not agree with Dr. Hughlings Jackson. This was an essential phenomenon, without which there was no epilepsy. The other symptoms were the characteristic features by means of which differentiations were made. The cases under consideration were marked by unconsciousness; but the other symptoms were of such a character as to exclude them from any one of the categories mentioned by Dr. Jackson. That the optic thalamus was the centre for perception, as the cortex was for intellection, was, to say the least, exceedingly probable. Every sense had, then, two stages in its full action: something was observed—that was one stage; it was more or less thoroughly understood, and that was another stage. The intrinsic starting-point of every sensorial impression was an organ of sense, such as the eye, the ear, or the terminal ramifications of the olfactory nerves. The starting-point of an erroneous or false sensorial impression, illusion, or hallucination, might be either the organ of sense concerned therein, or the sensory ganglion of the optic thalamus. It could only elaborate the impressions which reached it from the sensory ganglion, and these were either true or false, real or unreal, according as they came originally from the ganglion, or were transmitted through it from an organ of sense receiving real impressions from without; and, according as the cortex was in a normal or abnormal condition, would the ideas or beliefs which they formed from these transmitted impressions be normal or abnormal. All, therefore, that the cortex did, was to take cognizance of present or former sensorial impressions which it receives, or has received from the optic thalamus, and to form ideas from them. An additional argument against the involvement of the cortex was found in the fact that there were no muscular spasms in either of the cases cited. Spasms were, of course, not epilepsy; but muscular spasms combined with unconsciousness made a true epileptic paroxysm. It was thought, from what had been said, that the following conclusions were fairly deducible: first, that there was a form of epilepsy the phenomena of which were simply hallucinations and loss of consciousness; second, that the morbid anatomical basis of this type was located in the optic thalamus.

Dr. **Miles** remarked that he could not agree that the optic thalamus was the centre of observation.

Dr. **Jewell** regarded the thalamus as the seat of consciousness, and that the seat of perception was in the cortex of the brain. He had no doubt that the optic thalamus was intimately connected with the sense of sight. He thought Dr. Hammond was right in saying that sense perceptions came through sense organs, with one exception, and that was when inherited.

Dr. **Webber** thought it was possible for certain states of the optic thalamus to excite hallucinations, or that the cortex alone might excite them, and hence the vision seen. He took exceptions to the restrictions made by Dr. Hammond in the definition of epilepsy.

Dr. **Gray** thought that the view that the optic thalamus, and this alone, could be the seat of epilepsy, was unwarrantable, though it might be correct.

Dr. **Hammond** referred to certain cases of hallucination where the patients died, and the lesion found was located in the optic thalamus. There was not a single case on record where a lesion of the optic thalamus was found after death, in which there were not hallucinations of sight.

Dr. **Isaac Ott**, of Easton, Pennsylvania, next read a paper upon

THE BROMIDE OF ETHYL AS AN ANÆSTHETIC.

That the bromide of ethyl had a rapid and powerful action on the nervous system, was evident from its quick anæsthetic effect. In rare cases it could produce epileptiform phenomena. As an anæsthetic, he said it would seem to give excellent results when pushed to the extent of elevating the pulse and arterial tension; but the moment it depressed the tension and the pulse, then, in some cases dangerous symptoms might intervene.

Dr. Ott gave an exhibition of Woroschiloff's instrument, and explained its working. The instrument was for making sections of the spinal cord in living animals.

FRIDAY, JUNE 18TH—THIRD DAY—AFTERNOON SESSION.

The Association was called to order at 2.45 P.M., by the President.

The Secretary read the minutes of the preceding meeting, which were approved.

The Council reported favorably upon the name of Dr. W. R. Birdsall, of New York; unanimously elected.

Dr. **Gray** presented resolutions relative to the death of Dr. E. R. Hun; adopted.

Dr. Gray presented some extended resolutions on asylum reforms. Upon motion of Dr. Hammond, these resolutions were not acted upon until later in the day.

The first paper of the afternoon was read by Dr. **G. N. Hammond**, entitled

CONTRIBUTION TO JACKSONIAN EPILEPSY.

The histories of three cases of so-called Jacksonian epilepsy were given. Attention was called to the fact that Dr. Jackson did not consider loss of consciousness to be an essential element of an epileptic paroxysm, but that he had described a variety of the disease consisting of sensory and motor disturbances, but in which consciousness remained unimpaired. Dr. Hammond regarded this disorder as being epileptoid and not true epilepsy, and, in fact, had no tendency to pass into true epilepsy.

Two of the patients referred to in the paper were presented to the Association. One of these was a Hungarian, who had attacks of tonic rigidity of the muscles of the neck, sometimes of one side, sometimes of the other, and again in the posterior region. There were two kinds of auræ: one in which he saw bright lights of all colors, accompanied by a sensation of distress in the epigastrium; the other, in which the left ear became "fiery hot." The epileptic zone was seated in the scalp, and the slightest touch on this portion of the head was sufficient to cause an attack; and even approaching him with the hand, as if about to touch his head, was productive of a like result.

Dr. **Hammond**, Senior, in response to the inquiry of Dr. Gray, stated that he had never seen a case so exaggerated as this, nor one where the zone was so extensive. He thought, in those attacks which came on from peripheral irritation, that the patients did not lose consciousness; and it was because of this one point why he thought such cases were not epilepsy. In the case which his son presented, the patient could see and think at the height of the paroxysm.

Dr. **Miles** recalled the case of a boy who, when he began to cough, if it was continued, twisted himself over, cut several regular steps, and then fell down.

Dr. **Kinnicutt** said he had seen and examined a case similar to the one presented by Dr. Hammond. It was found that the slightest touch of the zone in the scalp produced a paroxysm, which consisted of the elevation of the arm and the muscles of the trunk, but not of the lower extremities. This was usually accompanied by one cry as the arms went up. The hair could not be brushed without this occurring.

Dr. **Jewell** remarked that an epilepsy, for him, included just two things: loss of consciousness followed, or usually followed, by more or less muscular action. There might be other symptoms, but these were the most characteristic. He thought we ought to be very careful in the use of the term "epilepsy," especially before patients.

Dr. Beard believed that in epilepsy we must have loss of consciousness and convulsive movements.

Dr. Hammond, Senior, thought if Dr. Jewell included in his definition sensory disturbances as well as motor, he would have the best definition possible. Making this change, the definition of epilepsy would read : "An abnormal sensory or motor disturbance, attended with unconsciousness."

Dr. James J. Putnam, of Boston, reported a case of

ACUTE MUSCULAR ATROPHY WITHOUT LESION OF THE CORD.

The Dr. believed the case to be one of disseminated neuritis. The pain, loss of electrical reaction, and rapid muscular wasting were the prominent features of the case.

After this, **Dr. Putnam** read an interesting paper on

NUMBNESS.

Within the past ten years there had come under his notice a large number of cases, such as he had not remembered to have seen described anywhere in detail, though they were often the subject of brief reference. Differing in minor respects, these cases presented, as a common symptom, disturbance of the subjective sensibility of the skin, giving rise to what was broadly known as numbness, recurring periodically, coming on especially at night or very early in the morning, and affecting one or both hands, either alone or in company with the arm, the leg, or rarely the whole body. This numbness was very often excessively intense, so as to amount to severe pain, sometimes being associated with pain of a more or less neuralgic character, especially in the arms. In treatment he had used galvanism, phosphorus, strychnia, bromides, cannabis indica, nitrite of amyl, and a few other remedies.

Dr. Miles referred to the history of a case he had published, where the extremest atrophy existed, but there was no absolute paralysis, the loss of power being due to a loss of muscular substance. He thought it impossible, at first, to excite contraction of the muscles, but the application of electricity was continued, and complete recovery took place.

Dr. Jewell inquired what Dr. Putnam thought of atrophies arising without any disease whatever of the nervous system.

Dr. Putnam replied that he had great respect for the opinion that the disease was of primary myopathic origin.

Dr. Jewell said he had seen one or two cases during the past year, and one of them he thought must have been of that origin. It seemed to be purely a local disease of the muscles ; that is, it began in the muscles, without any reference to the motor nerve ; he did not say independently of the *vaso-motor* nerve.

Dr. Hammond remarked that he had seen several of these cases, but he had never seen them lead to any bad results. All of his cases had recovered under the galvanic current.

Dr. Miles referred to a case he now had, where the numbness was confined entirely to the hand. There was no pallor, but rather the contrary.

Dr. Seguin stated that he had been seeing such cases ever since he became interested in nervous diseases. Most were cases of numbness in the hands and forearm ; to a certain extent, in the arms. He thought the affection was bilateral in all of his cases ; not in one of his cases were there evidences of organic disease ; no anæsthesia, no paralysis. Treatment had been rather unsuccessful. Temporary relief had been obtained by applications of hot water. The best results had been from a general tonic course of treatment. He was rather inclined to think that these cases depended upon some slight change in the posterior columns of the cord. He would not admit the vaso-motor theory.

Dr. Jewell referred to a class of cases having more or less persistent numbness, without any vaso-motor trouble whatever, and occurring more frequently in women than in men, and which were worse in the latter part of the day if the patients did not lie upon their back. His hypothesis was that these were cases of spinal exhaustion. The numbness was an expression of the wearing out and the gradual increased passive dilatation of the blood-vessels, which sometimes was worse and at other times better, according as the numbness was more or less profuse. Rest was exceedingly important in the cure of these cases.

Dr. Putnam remarked that in five or six of his patients there were distinct vaso-motor disturbances. The disturbance was of course connected with the central circulation.

Dr. Hammond's theory as to why washerwomen were so subject to numbness of the hands was that those members were placed in hot and cold water alternately.

Dr. Jewell said that not even the majority of his cases were washerwomen. He supposed that through that zone of the cord the circulatory disturbances might spread from one region to the other, and that from the way these attacks came on we must have some sort of shifting cause. Effects told something of the nature of the cause, and he knew of nothing that would produce this coming and going of the loss of sensibility unless it was a disturbance of the circulation.

Dr. Hammond said there was such a thing as exhaustion of the cord ; but you did not have the condition of hyperæmia in exhaustion of the cord, nor did you have numbness.

There being no further discussion of Dr. Putnam's paper, **Dr. W. R. Birdsall**, of New York, reported a case of

REMARKABLE TUMOR OF THE ENCEPHALON.

Dr. Seguin said he had seen the case several times, and delivered a clinical lecture upon it. The patient presented a partial left hemiplegia of the leg chiefly; but she had right facial paralysis and exquisitely marked choked disk. The diagnosis made before the class was that she had a cerebral tumor located in the anterior half of the pons varolii upon the right side. He was surprised to find at the post-mortem no lesion in this region, but an enormous tumor in the medulla oblongata. It was a case of common facial palsy, but did not seem to be Bell's palsy.

The Secretary read a letter from Dr. William A. Hammond, of New York, offering a prize of $500 to the American Neurological Association, for the best essay on "The Function of the Optic Thalamus," to be presented in 1882. The prize was open to neurologists in all parts of the world.

Upon motion, the Association adjourned.

Third Day—Evening Session.

The Association was called to order at 8.30 P.M.

In accordance with the motion of Dr. Hammond, the resolutions offered by Dr. Gray were taken into consideration, and after some discussion were adopted. An additional resolution was adopted, providing for the printing and sending of these resolutions to American and European journals.

Dr. E. C. Spitzka read by title a paper on

THE HOMOLOGIES OF THE MESENCEPHALON IN THE VERTEBRATE SERIES, WITH THE DESCRIPTION OF A NEW MESENCEPHALIC GANGLION.

Dr. Spitzka then made a verbal statement in regard to a hysterical case. The patient had been treated for acute miliary tuberculosis, and had remarkable dyspnœic movements. She also had what is usually called vicarious menstrual vomiting of large quantities of blood from the stomach, without menstrual flow. Afterward Dr. Spitzka made a careful examination of the case and obtained a full history.

All sorts of diagnosis had been made of heart and lung lesions, as well as hysteria. Dr. Spitzka excluded thoracic complaints, but thought she might be hysterical, and believed that all her symptoms were due to gastric ulcer. She not only had pain after eating, but always had it at the same point; it was aggravated with every deep inspiratory movement. Under treatment the stomach regained its normal condition, but the patient would not take care of herself; she was now in a hysterical state. The point which Dr. Spitzka wished to bring out was, that he thought there could be little doubt as to the origin of the blood, which was not hæmoptysis, but hæmatemesis.

DIAGNOSTIC SIGNIFICANCE OF A DILATED AND MOBILE PUPIL IN EPILEPSY.

A paper upon this subject was read by **Dr. Landon Carter Gray**, of Brooklyn.

A symptom which was of great importance in doubtful cases was a dilated and mobile pupil. He had examined forty-nine patients in all, and in every instance, except four, found that the pupil possessed this characteristic symptom. By means of this symptom he had been enabled to make a diagnosis in several instances where the history was uncertain, or he knew nothing of it. He was, therefore, almost willing to affirm that this symptom was pathognomonic, and he committed it to the criticism of the profession in the hope that it might prove of as extended and certain application as he anticipated.

Dr. Spitzka said that while he attached great importance to the dilated pupil, he had found cases where it was absent; those cases occurring late in life in which there was a peculiar pupil, something like that of general epileptics.

Dr. Cross remarked that, although he had not made a note of the conditions of the pupil in studying the ophthalmoscopic appearance of the retina in epilepsy, he remembered that in a large number of cases there was dilatation of the pupil.

Dr. Gray remarked that his point was that the pupils were dilated and mobile.

Dr. Hammond had not noticed the point insisted on by Dr. Gray.

Dr. Spitzka stated that in alcoholic epileptics the pupil was normally, or more than normally contracted. He asked for Dr. Kiernan's observation upon cases of alcoholic epilepsy.

Dr. Kiernan remarked that in these cases he must confess that he had noticed the symptom of a largely dilated and mobile pupil. The same had been noticed in forms of insanity associated with masturbation. In about twenty per cent. of the cases observed by him, this symptom was present.

Dr. Kinnicutt had recently seen two cases of melancholia in children where the etiological factor was supposed to be masturbation, and in both cases the pupils were largely dilated and mobile. Within the past year he had seen seven or eight such cases.

The papers of Dr. Miles of Baltimore, Schmidt of New Orleans, Spitzka of New York, Bannister of Chicago, and Lombard of England were read by title.

Drs. Miles, Seguin and Jewell were appointed a committee to decide in regard to the merits of the papers presented for the Hammond prize.

Upon motion the Association adjourned to meet for its next annual session in New York city, upon the regularly appointed day.

Correspondence.

HYSTERO-EPILEPSY—ITS HISTORY, Etc.

To the Editor of The Medical Record.

Dear Sir:—I have no doubt that many an old subscriber, who, at home, has been under a grateful sense of obligation to the Record for much or all that is new and interesting, medically speaking, feels when abroad, and in the presence of fresh medical scenes, that it would be only a simple debt of loyal repayment to contribute, in turn, his mite to its pages.

But, easy as it is to reason thus, it is more difficult by far, in the presence of the many changing scenes of a foreign city, to put the thought into practice; however, with the Record's permission, I will attempt to discharge my debt, from time to time, in the form of a few scattered notes, principally upon certain subjects about which the medical world has not yet formed fixed opinions, trusting that for this reason my notes may not prove altogether uninteresting.

Of the many novel things that reached us of late in America, none were more novel, nor received, in some respects, with more scepticism, than the reports, both verbal and printed, that came to us of the doings of Professor Charcot, at the famous Hospital of Salpêtrière, in regard to hystero-epilepsy. True, hystero-epilepsy itself, thanks to the indefatigable and acute study of Charcot, has taken its place in medical literature as a distinct and now easily recognizable entity, and we have all become familiar with the well-defined symptom picture of the complete hemianæsthesia not only of general sensibility, but also of the special senses (achromotopsia, etc.), the hyperæsthesia of the ovary (ovaria), the possible contractures, and the now classical seizures, or fits.

But above and beyond this simple statement, there was much not so easy to understand, and not so easy to verify. I refer particularly to the effects stated to have been brought about by the use of metals and magnets, reviving, in the latter instance, the curious theories and statements already advanced by Burq, under the name of metallotherapy. The wonder lay, not in the results of metallo-therapy, but in the fact that it was seemingly endorsed by the great name of Charcot. And, as regards America, I do not know that metallo-therapeutics, so-called, or any of its primary and essential phenomena even, has ever been verified, though in a single instance, at least, it has been denied on the basis of an apparently fair trial.

If we add to magnets and metallo-therapy the many other curious phenomena presented by the hystero-epileptics at Salpêtrière, and now being subjected to patient study, though not yet presented in printed form to the profession—if we add, namely, the hypnotism, the mesmerism, the catalepsy, the somnambulism, and the effects of static electricity, as well as magnets, in these cases, we have opened out to us a wide field for interesting observation. We must not forget, moreover, that we are at a head-quarter of "cerebral localization," and that some points on this subject may fall in by the way.

I confess, under the circumstances, that I approached Salpêtrière like a pilgrim to a Mecca—with not all a pilgrim's faith, perhaps—but regarding it, nevertheless, as a goal much to be desired. And I shall start at once by taking the readers of the RECORD into my completest confidence, promising to observe for us both simply the facts in the case, according as they shall present themselves. *Nous verrons ce que nous verrons.*

But first, a few words about Charcot and the Salpêtrière.

Provided with agreeable letters of introduction, I called, soon after my arrival in Paris, upon Professor Charcot. Few names are more familiar to American readers of foreign literature, than Charcot's, and few more justly celebrated in his own country than his. As a specialist in diseases of the nervous system, it scarcely needs be said that that he is among the foremost. It may not be so well known that, not contented with a single specialty, he ranges widely over other branches of medicine; for instance, he is now delivering a course of lectures upon diseases of the kidneys.

Charcot lives on the banks of the Seine, in a fine old residence. Our card is carried in, and while waiting, we can scarcely fail to note our surroundings. It is evident at once on every hand that the occupant's fervor for medicine has not been inconsistent with the gratification of a strongly expressed taste for art; that wealth, while affording freer scope for following more in detail special directions of study, has found equal expression in the outward evidences of comfort and luxury. I merely note, in passing, a single room furnished in Japanese style in bamboo and drapery, whose walls were covered by placques, designed and painted by Charcot himself, from scenes at his country place and elsewhere.

We have not, however, long to wait. The potent title of Dr. on our card gains us immediate entrance. We enter the library, filled from floor to ceiling with attractive rows of books. A bust of their owner, already familiar to American neurologists by his photograph, stands in view. The original of the bust now quickly appears from a consulting-room and makes us welcome.

Charcot's personal appearance is striking. His face once seen is not easily forgotten; it is, at the same time, intellectual and spirituelle.

So much for details not uninteresting, I am sure, to the many readers of Charcot's works. My greeting, thanks to letters from friends at home, was a most agreeable one, and I was at once invited to avail myself, in the fullest manner, of the teachings at the clinic and in the wards of the hospital. The next morning I was early on my way to Salpêtrière. But why called Salpêtrière, or as the word translated signifies, saltpetre works? In the answer we may find a bit of interesting medical history, gleaned with some trouble from various sources, for there appears to be no annual "report" to refer to as with us. Such reports here are made to the director of public charities, but not printed.

In 1656, Louis XIV. established under one direction all the hospitals of Paris. Some buildings formerly used as saltpetre works were appropriated to public use and transformed into dormitories. At this date even, Salpêtèrie, as it now had become christened, contained nearly a thousand pauper women and children. In 1684 certain other buildings were erected and used as prisons for females, and finally the insane also in great numbers were confined here, until at last the place became an enormous bedlam. By the end of the eighteenth century it was the largest hospital in Europe. Tenon writes that he saw there at one time as many as 8,000 inmates, consisting of old and decrepit women, dissolute and criminal women in the prisons, pauper children, furious maniacs, imbeciles, epileptics, paralytics, the blind, cripples, and those afflicted with scurvy and a variety of incurable diseases.

This was the Salpêtrière of the end of the eighteenth century—the Salpêtrière which Pinel found when he was appointed physician-in-chief to it, as well as to Bicêtre, the corresponding institution for the custody of males.

We may judge of the condition of the insane at this Bedlam by a few words which I will translate from a good authority: "At Salpêtrière there were cells called the lower cells, situated more than fifteen feet below the new cells." These are described as follows by M. Desportes, administrator of hospitals, writing in 1822: "The lower cells of Salpêtrière differ in no respect from those of which I have just spoken. Built one against the other they receive neither light nor air except by the door; but that which renders them still more calamitous and often fatal is the fact that in winter, when the waters of the Seine rise, these cells, situated at the level of the sewers, become not alone very much more unhealthy, but furthermore a place of refuge for throngs of immense rats, which attack in the night the miserable occupants and bite and gnaw them whenever they can get at them. At the morning visit certain of these insane are found whose feet, hands, and face are torn by bites often dangerous, and from which several have died." *

But there is nothing in the present of Salpêtrière to suggest such a hideous past. Once within its gates, one has entered an enclosure of eighty acres, containing forty-five blocks of substantial buildings. These buildings are arranged in squares, enclosing within their general ground-plan a dozen or more large rectangular courts which, in fact, are so many beautiful gardens planted with trees in long arched colonnades and adorned with multitudes of well-tended flower beds. As now organized, the inmates are divided into three classes, the insane, epileptics and hysterics, and old women. There is also an infirmary for out patients, consisting of two services, a surgical and a medical. It is with the latter as well as with the epileptic and hysterical wards, both under the charge of Prof. Charcot, with which we are for the present chiefly interested. As I passed by the kitchen department breakfast for about 5,000 people was being cooked and served. In the various gardens, sitting on benches beneath the trees, or chatting in groups beneath the same shade, or hobbling along with canes, were hundreds of old women who now comprise the largest portion of the inmates of this great almshouse.

But it is not alone the vast extent and number of its buildings, the multitude of poor which it houses, feeds, and treats medically, that has given this institution its world-wide fame, but it is the vast services which humanity has received from it through the labors of faithful and able physicians. From its walls first went forth to France the principle of a humane treatment of the insane as well as of a rational treatment of insanity.

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* Étude sur les hôpitaux, par M. Armand Husson, Paris, 1862, p. 286.

It was here in this very corridor itself, which we are traversing to reach the door of Charcot's clinic—a corridor and a scene familiar to many by the picture representing the event—that Pinel first cast off the chains from the insane, and taught not alone humanity to his times, but went farther, and instituted the first instruction upon mental disease ever given in France. True, his pupils were few, his instructions theoretical; but it was a beginning. And at this same hospital Esquirol, friend and colleague of Pinel, took the next great step and established a clinic for the study of mental disease, at which (yearly, from 1817 to 1826) he laid down the first sound doctrines of mental disease. It was Esquirol who, with Bichat, established in France the somatic rather than the psychic theory of insanity, who taught that insanity was a disease of the body itself, not of the spirit, and that it was to be studied from the standpoint of physiology and pathology, rather than that of metaphysics and theology. Pinel's work was humanitarian; Esquirol reduced insanity to a science. Pinel threw open the doors to reform by removing the chains from the insane; Esquirol took the emancipated in hand and studied their disease on a scientific basis.

But we must not forget that this is a morning visit and thus dwell too long in reveries of the past. Charcot's clinic, to come at once to the subject in hand, is very perfectly appointed. We may take a hasty glance at the rooms before the clinic begins.

Leaving the antechamber, where patients and attendant are waiting, we enter the reception-room, where they are received and their cases examined, recorded, and treated. This reception-room forms but one of four rooms devoted to the same purposes, though in different directions of study. The second and largest is used for treatment by electricity; the third is for chemical examinations, and the fourth is used for photography.

The reception-room itself contains much that is suggestive and interesting. Its walls are covered with old prints representing biblical occurrences, such as St. Paul and St. Peter healing the sick, scenes in demonology and witchcraft, miraculous cures by saints, saints in ecstasy, the contortions of *convulsionaires* in the middle ages, etc., etc., down to "miraculous" cures recorded in the present. Here, in particular, is a picture of a patient with what is evidently, from the description given beneath, an hysterical contracture, being carried to the tomb of St. Medard to be cured. In the accompanying picture the cure has been effected, and we see the patient walking about with perfect use of her limbs. Charcot seems to delight in collecting these prints, for can he not confront them in his own clinic with equal wonders, with equally persistent and hideous deformities, relieved by no miracle, by no appeal to a saint, but cured simply in accordance with modern scientific knowledge? To the physician of to-day the sudden relief of hysterical deformities is no longer a miracle. On the walls of this room we seem to be intentionally brought face to face with the whole past history of nervous diseases in some of its strangest and most unique aspects.

But let us leave this room and enter the second—that devoted principally to electrical apparatus and treatment; and here we shall find the surroundings and the paraphernalia of a scientific and intelligent present. Here, too, are pictures on the walls, but they are pictures—photographs and crayons—taken from life, and from patients in this very hospital, in stages of fury, of contortion, of passional ecstasy as vivid and as real as it is possible to imagine any saint or *convulsionaire* of the past may have exhibited. Here, in this room, are patients by the dozen whose hysterical contractures yielded, as we shall see, to the exorcisms of modern science as speedily as did any who were led to the tomb of St. Medard. Here are hysterical girls who, in their hypnotized and mesmeric states, see visions as beatific as did ever saint of old or modern virgin of Lourdes, whither now flock thousands of believing pilgrims. But science takes a step in advance of superstition; it may originate at will these very visions in the mind of the subject, now called simply a patient; it may give not only the details of the vision, but also the very tone and coloring of it; and the things seen shall afterward be faithfully repeated, with an earnestness and a vividness which leave no doubt in the mind of the hearer of the reality of the hallucination created.

Science, too, may create these contractures and bring on these contortions and convulsions at will, as well as relieve those that have occurred spontaneously and those that have been induced (artificial hysterical contractures). What superstition calls a miracle, science creates at the physician's bidding. In this room, then, we see the modern "possessed." Charcot has found them out, has studied their disease and made it intelligible—has named it Hystero-Epilepsy. Indeed to him the world owes a great debt of gratitude that he has made these cases clear, and thus not only made their proper treatment understood, but gained for the poor hysterical a charity not formerly so freely accorded them. Medicine is thankful for light thrown upon the protean form of hysteria. Science, too, is thankful that in denying a miracle it can do so on a basis of demonstration.

But, besides pictures and patients, here are elaborate galvanic, faradic, and static electrical machines; there also are magnets, metals, colored disks for testing hysterical amblyopia, and various appliances for registering symptoms, whose enumeration will too much task the reader. Indeed it is time to remember that details, vivid enough upon the spot, may grow dim in interest by distance. In my next I will speak only of the daily transactions at the clinic, excusing this excursion into the past by the hope that the clinic's present may appear more real by reason of its historical setting.

Very truly yours,
William J. Morton, M.D.

Paris, July 22, 1880.

PHYSICIAN AND PHARMACIST.

To the Editor of The Medical Record.

Sir:—As the physician has had his audience it may not be improper that the druggist should have a hearing on the subject of *incompetency*, as alluded to in the Record of July 3, by * * * *.

Now, while we do not wish to offer an apology for the man who will not arise in the dead of night to prepare a very simple cough remedy, or the man who cannot read a prescription, whether the spelling, writing, or abbreviations be according to the rules of art or not; yet, we do state that far more mistakes are made by the writers of formulæ than by the compounders.

It is not every man who writes his name with an attachment of M.D. who can, or will, *or does* write his prescription so that a man with a fair average amount of brain could swear that it was correct—as the M.D. intended; nor is it very unusual that the doctor takes from his pocket some formula-book and writes from it, and if he did examine he would be unable to tell if it was or was not correct. Then the physician sometimes writes ʒ's for ℥'s or other mistakes in putting incompatables into the same bottle, and expects his druggist, "*if he knows anything*" to rectify *those little things.*" For instance, I copy from my prescription book, *verbatim et literatim :*

℞. "For Mrs S——
Quinia sulph .... gr xv
Morph. sulph. .... ʒ iss
Ferri carb .... gr iij
Ft chts No ix
Sig One three times a day and oftener if necessary to quiet pain."

and this bore the signature of a regular graduate of one of the first colleges in the land.

And, taking the correspondent * * * * argument, we must be our own doctor and thus relieve the physician of any further complaints.

Now, in concluding this I will say, I have written recipes for twenty-five years, and a considerable portion of that time have been also connected with the dispensing department of a drug store, and I have found quite as much "incompetency" in the practice of medicine as in the dispensing of medicine.

C. T. Armstrong.

Corunna, Mich.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August 15 *to August* 21, 1880.

McKee, J. C., Major and Surgeon. Granted leave of absence for one year, on Surgeon's certificate of disability. S. O. 177, A. G. O., August 19, 1880.

Happersett, J. C. G., Major and Surgeon. At the expiration of his present leave of absence, to report to the Commanding Officer, Ft. Ringgold, Tex., for duty as Post Surgeon. S. O. 161, Dept. of Texas, August 10, 1880.

Taylor, M. K., Capt. and Asst. Surgeon. Assigned to duty as Post Surgeon at Ft. Concho, Texas. S. O. 161, C. S., Dept. of Texas.

O'Reilly, R. M., Capt. and Asst. Surgeon. His leave of absence, on account of sickness, extended four months on Surgeon's certificate of disability. Relieved from duty in Dept. of the South, and at expiration of his present leave of absence to report by letter to the Surgeon-General. S. O. 174, A. G. O., August 16, 1880.

Moseley, E. B., Capt. and Asst. Surgeon. His leave of absence extended ten days, with permission to apply for a further extension of two months. S. O. 75, Dept. of the Platte, August 17, 1880.

Carter, W. F., 1st Lieut. and Asst. Surgeon. When relieved by Asst. Surgeon Taylor, to report to Commanding Officer, Post of San Diego, Tex., for duty as Post Surgeon. S. O. 161, C. S., Dept. of Texas.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending August 21, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Aug. 14, 1880.	0	6	22	4	6	36	0	0
Aug. 21, 1880.	0	12	28	3	9	65	0	0

An Act entitled "*An act to regulate the licensing of physicians and surgeons.*"—Chapter 513. Passed May 29, 1880; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. A person shall not practise physic or surgery within the State unless he is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his authorization, or is hereafter authorized so to do as prescribed by chapter seven hundred and forty-six of the laws of eighteen hundred and seventy-two, or by subsequent sections of this act.

§ 2. Every person now lawfully engaged in the practice of physic and surgery within the State shall, on or before the first day of October, eighteen hundred and eighty, and every person hereafter duly authorized to practise physic and surgery shall, before commencing to practise, register, in the clerk's office of the county where he is practising or intends to commence the practice of physic and surgery, in a book to be kept by said clerk, his name, residence, and place of birth, together with his authority for so practising physic and surgery as prescribed in this act. The person so registering shall subscribe and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same and by whom granted, which, if wilfully false, shall subject the affiant to conviction and punishment for perjury. The county clerk to receive a fee of twenty-five cents for such registration, to be paid by the person so registering.

§ 3. A person who violates either of the two preceding sections of this act, or who shall practise physic or surgery under cover of a diploma illegally obtained, shall be deemed to be guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than fifty dollars nor more than two hundred dollars for the first offence, and for each subsequent offence by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment for not less than thirty days nor more than ninety days, or both. The fine, when collected, shall be paid, the one-half to the person or corporation making the complaint, the other half into the county treasury.

§ 4. A person coming to the State from without the State may be licensed to practise physic or surgery, or either, within the State, in the following manner: If he has a diploma conferring upon him the degree of doctor of medicine, issued by an incorporated university, medical college, or medical school without the State, he shall exhibit the same to the faculty of some incorporated medical college or medical school of this State, with satisfactory evidence of his good moral character, and such other evidence, if any, of his qualifications as a physician or surgeon, as said faculty may require. If his diploma and qualifications are approved by them, then they shall endorse said diploma, which shall make it for the purpose of his license to practice medicine and surgery within this State the same as if issued by them. The applicant shall pay to the dean of said faculty the sum of twenty dollars for such examination and endorsement. This endorsed diploma shall authorize him to practise physic and surgery within the State upon his complying with the provisions of section two of this act.

§ 5. The degree of doctor of medicine, lawfully conferred by any incorporated medical college or university in this State, shall be a license to practise physic and surgery in the State after the person to whom it is granted shall have complied with section two of this act.

The Foramina of Monro—Correction.—In our abstract of Dr. Wilder's paper in the Medical Record for August 7th, the word "*radial,*" near the top of page 157, should have been "*ventral.*" In the last paragraph, "*tuberculum anlæ*" should be "*crista fornicis.*" We understand that Prof. Wilder will present a paper on the Foramina of Monro at the coming meeting at the American Association for Advancement of Science, in Boston, and that some historical questions connected with the subject are discussed in the last number of the *Boston Medical and Surgical Journal.*

Dr. Wellington N. Campbell, of this city, died of phthisis, in Burlington, Canada. He graduated at Bellevue Hospital Medical College, was afterward Ambulance Surgeon to the hospital, House Physician to Ninety-ninth Street Hospital, served six years at the New York Dispensary, and three years at the Northern Dispensary.

The Report of the American Veterinary Hospital for the year ending February 25, 1880, shows that we have in this city a well organized and very useful institution for veterinary study. The hospital is maintained in connection with the American Veterinary College and is officered by four veterinary surgeons, of whom Dr. S. Liautard is chief. During the past year 2,442 patients were treated, 1,880 of these were cured, 11 were discharged because affected with contagious diseases or incurable, and 24 died. Two hundred and sixty-six operations were performed, in many cases while the patient was anæsthetized.

The records of this as well as of other similar hospitals and colleges show that veterinary science in this country is advancing every year.

A Somewhat Crowded Profession.—In the Sherley Will case before the Louisville Court the other day, in reviewing the medical testimony, Colonel McKay, one of the counsel for the will, remarked upon the number of doctors in the world, and said that down "in his country, between the hills and the river, they are so thick that two had to ride one horse; and that, a flat-boat having been stranded in the river one night, the next morning three doctors' signs were hanging out from its sides."—*Louisville Medical News.*

The Epidemic at North Adams, Mass., to which reference was made some weeks ago, has been traced to the water drunk by the inhabitants of the town. A stream flows through the place, and it was found that all the cases of disease occurred in families who got their water below a certain pond on that stream. The water of this pond is shallow and the bottom covered with a mass of decaying vegetable matter. Some atmospheric influence, it is said, has also to be called in, in order to fully account for all the cases.

A New Cause of Death.—A Philadelphia "doctor" recently signed a certificate of death from "collary fantum." He is a colored graduate of a bogus school, and the courts have shown a disposition to investigate his right to practise. This is the second or third case that has attracted attention within a few weeks, of ignorant men professing to be skilled physicians.

Is Buchanan Dead?—The city of Philadelphia has been unable to determine whether Dr. Buchanan, of unsavory reputation, is alive or dead. He was to appear for trial on the charge of issuing bogus diplomas, and using the mails for that purpose. Just before the time for his appearance at court, a man resembling the professor was seen to jump from a ferry-boat into the Delaware. As it was night it was scarcely possible to tell whether he drowned or swam to a place of safety. The court has been petitioned not to forfeit his bail, since it is impossible for the bondsmen to produce the suicide. The river has been dragged and no cadaver found. The prosecution holds that it is a ruse of the wily doctor to escape conviction, for, by latest accounts, he has reached Canada in disguise.

The Atlantic City Accident.—Twenty-one victims of the accident on the Atlantic City branch of the West Jersey Railroad, have died. Many of them were treated at the Pennsylvania Hospital. Those received at that institution were burned about the hands, face, and legs. The women were severely burned up to the thighs, but the men, as a rule, escaped, on account of the difference in dress. The treatment consisted of carbolized oxide of zinc ointment locally, with anodynes and stimulants internally. Death, in most instances, occurred from shock.

Regulating Prostitution.—The new Parliament of England has appointed a committee to continue the inquiry into the workings of the Contagious Diseases Acts.

Honorary Degrees at the British Medical Association.—On August 11, 1880, a meeting was held for the purpose of conferring honorary LL.D. degrees upon some of the most distinguished members of the British Medical Association. The degree was granted on June 10th of last term, and fourteen gentlemen were selected. Of these, Dr. Paul Broca, Prof. of Surgical Pathology in the Faculty of Medicine, Paris, has since died, and Dr. Chauveau, of Lyons, was unavoidably absent. All the others were present and were admitted. Their names are as follows: Dr. C. E. Brown-Séquard, of Paris; Dr. F. C. Donders, of Utrecht; Dr. S. D. Gross, of Philadelphia; Sir Wm. Jenner, Sir Wm. Gull, and Sir Geo. Burrows, of London; Rev. S. Haughton, M.D., F.R.S., of Dublin; Mr. Wm. Bowman and Mr. Joseph Lister, of London; Mr. Dennis O'Connor, of Cork; and Mr. John Simon and Mr. Andrew Wood. The public orator was Mr. J. E. Sandys, of St. John's College. The Vice-Chancellor afterward entertained the newly created doctors and a distinguished company at luncheon at Corpus Christi College.

The Vital Statistics of European cities for 1879, show that Christiania had the lowest death-rate, viz.: 17·5 per 1,000; and St. Petersburg the highest, 40 per 1,000.

An Epidemic of Pernicious Anæmia, which has recently been observed among the miners of the St. Gothard tunnel, is attributed, by Dr. Perroncito, to the presence of certain parasites in the intestines. Three different kinds of worms have been found in the dejections. One of these, an anchylostoma, is called Dochimus duodenalis; the others are varieties of anguillula.

Non-restraint in the Treatment of the Insane.—Dr. Rutherford, of the Parochial Asylum, at Woodilee, Scotland, states in his recent annual report that, mainly through fully occupying the patients, and thereby counteracting the tendency to manifestation of their insane ideas, it has been found practicable to carry out the open-door system of treatment. All the doors of the asylum open with ordinary handles, and only the chief attendants are in possession of a key. Dr. R. believes that by the diminution of apparent restrictions upon liberty, greater quietness and contentment are secured, which have the effect of promoting recovery.

A New Ophthalmological Society has been organized in London, and calls itself "The Ophthalmological Society of the United Kingdom." It at present embraces eighteen members, most of whom are London surgeons.

A Novel Treatment for Dysentery.—M. Verneuil recently reported the case of a wood-cutter, who had for several years suffered from dysentery, with incontinence of fecal matters. To remedy this he was in the habit of introducing into the bowel a plug of wood wrapped in linen cloth, of which the ends were allowed to protrude. On one occasion, however, having forgotten these appliances, he made use of a branch of poplar, cut roughly conical with an axe. Whilst at work this suddenly slipped up into the rectum, out of reach. M. Verneuil subsequently performed gastrotomy and rectotomy in order to get it out, which was done successfully.

Progress in the Treatment of the Insane in England.—A bill has been introduced into the House of Commons, which will initiate some very radical changes in the care of the insane. It provides a plan by which private asylums shall gradually be put under public control, and by which medical treatment shall become a more prominent feature in these institutions. There has been considerable complaint of late that English private asylums are too often only commercial ventures, in which the medical element is subordinate. They are accused of being elegant retreats rather than hospitals.

Treatment of Lung Cavities by Paracentesis.—A case has recently been reported by Dr. R. D. Powell and Mr. R. W. Lyell, of London, in which a basic cavity in the lung was treated by paracentesis. Some immediate improvement was gained, but the patient died in about seven weeks. The operators considered that paracentesis would often be a justifiable operation in chronic basic cavities. They did not advise it in apex cavities, however—an opinion which is counter to that of Dr. Pepper, who has been experimenting in this direction.

The St. Louis Medical College announces its adoption of the three-year graded course.

The Influence of the Excess of Alcohol on the Death-rate.—Dr. Norman Kerr, in a paper read before the Section in Medicine of the British Medical Association, gave as an approximate estimate of the mortality from alcoholic excess, 120,000 deaths; 40,500 resulting from personal intemperance, 79,500 from starvation, disease, accident, or violence arising from the intemperance of persons other than the killed.

Medical Education in the West.—It is, perhaps, an indication of better times, when medical colleges find it for their interest to advertise themselves by announcing an extra long and severe curriculum. The only possible excuse, indeed, for the organization of a new medical college is to supply the demands of a higher medical education. This excuse is therefore seized upon. The last instance is that of the St. Paul Medical College, which announces that it will open with a full graded course of four years. Four years' study will be required as a requisite to graduation; and there are preliminary and annual examinations.

A Case of Superfœtation is reported in the *Chicago Medical Journal and Examiner*, by Dr. D. A. Walden. A primipara, aged twenty, married ten months, was taken with labor-pains April 18th, and next day was delivered of a full-term child. The patient did well until two days later. On that day, while using the vessel, there passed from her a complete unruptured sac, containing a male fœtus and placenta about four months old. The woman made a rapid recovery. She stated that she had menstruated for three or four months after she was aware of her pregnancy. There were no signs of a double uterus. In a somewhat similar case, related by Playfair, menstruation was kept up during the whole period of pregnancy.

The Compressed Air Bath is a therapeutic measure which is gaining some advocates in this country, as well as abroad. There are a few physicians in this city who use it, and *The St. Louis Courier* states that it is being tried in St. Louis. Its special use is in cases of asthma, emphysema, and chronic bronchitis. A new application of the method, however, is in the treatment of obesity. Two cases have been reported by Dr. Charrier in *L'Union médicale;* in one the weight was reduced from 232 to 210 pounds in 25 days.

Suspension of the Heart's Action.—In the *Louisville Medical News*, Dr. J. A. Long reports a case of a negro whom he had been treating for congestion of the brain. On the first day of attendance the patient was delirious; his pulse was 104, and lost one beat in eight; the day following it lost one beat in six, next day one in three. On this day, while standing by the patient, the breathing and heart-beats suddenly stopped completely, and the man appeared completely dead. He was so pronounced by the doctor. About five minutes later, however, he began to breathe again; the heart's action returned, and he lived twelve hours longer.

The International Medical Congress meets in London in August, 1881. Arrangements for the occasion are already under way. Burlington House has been secured for the meetings of the congress. The executive committee has nominated Sir Wm. Gull, Mr. Erichsen, and Dr. Matthews Duncan, as presidents of the medical, surgical, and obstetrical sections respectively.

Sanitary and Medical Matters in Japan.—In 1873 a sanitary bureau was created by the government of Japan. Its first report, covering the two years from 1875 to 1877, has just been published. The document gives a very clear idea of the condition of sanitary and medical matters in Japan, and it shows the difficulties which the bureau has had to encounter in its efforts to improve the status of medicine and hygiene. The bureau was empowered to regulate the practice of medicine and of pharmacy by prescribing courses of studies and the examination tests. It was given control over the sale of drugs, patent medicines, poisons, etc., and it possesses the other ordinary duties of health boards in the matter of registration of diseases, quarantine, etc. Not all of these things could be attempted at first, however, and even now a thorough sanitary organization is far from existing. The board has certainly acted in a wise and intelligent manner, however, and has made all the progress possible. There is still a vast degree of ignorance and superstition among the lower classes, as may be inferred from the quality of the medical services which they call for. There are in Japan over 31,268 physicians, or about 1 to every 1,100 inhabitants. Of these, 66 per cent. follow the Chinese system, 13 per cent. the "mixed system," and 21 per cent. the "Western" system. Of this 21 per cent., however, only 1 per cent. are duly qualified by examination. The total number of apothecaries was 5,993. Only 22 of these are licensed by examination, and the vast majority practise the Chinese or Japanese system.

The law in regard to patent medicines is that hereafter any one wishing to prepare such medicine shall apply to the educational department for a license, presenting a sample of such medicine, with the names and proportions of the ingredients, directions for its use, and explanations of its supposed efficiency. A vast number of medicines are patented and sold in Japan.

Chloride of Calcium in Phthisis.—Dr. James Sawyer, of Queen's College, Birmingham, states that he gets better results in treating phthisis by combining chloride of calcium with the standard remedies, than by any other means. He is inclined to place a high value on its curative effect. He thinks it checks night-sweats, increases weight, and tends to dry up the lesions. He gives it in ten-grain doses, twice a day, after meals. There should be no mistake made by substituting chloride of "lime" for chloride of calcium.—*Brit. Med. Journal.*

The Metric System in England.—A leader in a recent issue of *The British Medical Journal* calls attention to the importance and expediency of introducing the metric system as soon as possible into medicine and pharmacy. The editor urges, that, as a beginning, the system might be introduced into those English towns where it is customary for practitioners to dispense their own medicines. The purchase of a set of metric weights and measures would be nearly all that would be necessary in order to effect the requisite change.

Sequelæ of the Fast.—During the time of Tanner's fast, and for some days after it, the papers were quite full of cases of voluntary or involuntary starvation. The literature of the subject has been greatly enriched by Dr. Tanner's performance. Nearly all the cases of starvation related in the standard works on physiology have been republished. In addition to this, a large number of new instances of prolonged abstenance from food have been contributed, upon more or less good authority. The *Lancet* publishes the case of a woman, aged sixty, who lived for forty-nine days without food, but died on the fiftieth day. She took small daily amounts of water, but had no other nourishment. There was not much emaciation. Another case was that of a man suffering from cancer of the stomach. During the last forty-one days of his life he took neither food nor drink. He suffered a great deal, and emaciated rapidly. A case is reported, on respectable authority, of a woman living in Delaware who died after a thirty-six days' abstinence from food. During this time she lost only ten pounds, weighing, when she died, 150 pounds.

A hysterical girl is reported to be living in Louisville, who has not eaten anything for forty-four days. This particular person lies in a state of "trance," and evidently belongs to the "Molly Fancher" order of light-eaters.

Those who may be classed more strictly as imitators of Dr. Tanner have been tolerably numerous. We learn of a young doctor of Lyons who essayed to go fifteen days without eating. He gave up at the end of the first week.

A starving match at $1,000 a side was proposed in this city, and a number of entries were made, but nothing came of it so far as we can learn. One of the curiosities of the mania is the Western man, who has proposed to show how long he can live upon beer alone.

A case is reported by Dr. J. C. Noyes, of Oshkosh, Wisconsin (*Boston Med. and Surg. Jour.*), of forty-five days' fasting. When seen at the end of that time by Dr. N., the patient, who had been sick for a long time, was considerably emaciated, with paralysis of the lower extremities, loss of voice, and partial dementia. The man's age was thirty-four; pulse, 56; respiration, 12; temperature, 94° F. He had taken no food for forty-five days, and no water during the last nineteen days, except to rinse the mouth. He had been unable to swallow at all during the latter period. The diagnosis could not be made with certainty.

Increase in Lunacy.—From the twenty-first annual report of the Commissioners in Lunacy for Scotland, we learn that the increase of private lunatics in England has been from 4,980 in 1859 to 7,692 in 1878. The increase of pauper lunatics has been from 31,782 in 1859 to 60,846 in 1878. This gives a total increase of from 1.87 per 1000 in 1859, to 2.76 per 1000 in 1878. There has been a similar increase in Scotland, from 1.99 per 1000 in 1859 to 2.55 per 1000 in 1879. The total number of lunatics in Great Britain is now 77,696.

Poetry for the Tenement Districts.—

In Köln, a town of monks and bones,
And pavements fanged with murderous stones,
And rags and hags and hideous wenches,
I counted two and seventy stenches,
All well defined, and several stinks!
Ye nymphs that reign o'er sewers and sinks,
The River Rhine, it is well known,
Doth wash your city of Cologne,
But tell me, nymphs! what power divine
Shall henceforth wash the River Rhine?

The International Congress of Hygiene, at Turin, will open September 6th, and close September 12th. All governments are invited to send delegates. A reduction of 30 per cent. on railroad fares is also announced.

Original Lectures.

DISEASES OF THE GREAT THORACIC ARTERIES.

A Clinical Lecture.

By Dr. E. FLETCHER INGALS.

LECTURER ON DISEASES OF THE CHEST AND PHYSICAL DIAGNOSIS, AND ON LARYNGOLOGY, IN THE POST-GRADUATE COURSE, RUSH MEDICAL COLLEGE, CHICAGO.

(Delivered May, 1880. Stenographically reported for The Record.)

Gentlemen: The first case which I present to you this morning is that of a laboring man, D. G., fifty-two years of age. He came to me recently, complaining of pain in the left side, especially near the sternum, hoarseness, and difficulty in breathing. He says that the trouble commenced last November, though he has not been well for more than two years.

Among the symptoms and signs, the first to attract our attention is a constant pain starting in the region of the second intercostal space of the left side, close to the sternum, and running downward and outward to the left of the mammary region, with occasional pains shooting into the left shoulder and arm. The patient is well nourished, and there is nothing characteristic in the expression of his countenance or in the appearance of the integuments. The pulse is soft, beating ninety-eight times in a minute, and is alike upon both sides. You will observe that the voice is feeble and hoarse. He complains of a short, paroxysmal cough, with slight expectoration of white frothy mucus, and considerable dyspnœa upon exertion. His digestive functions are well performed.

The symptoms of this case direct our attention at once to the respiratory organs. Upon examining the chest we will observe a small prominence, about two inches in diameter, with its centre in the second intercostal space of the left side, which pulsates rhythmically with the radial arteries. The chest has a peculiar marbled appearance, due to distention of the superficial veins.

Upon palpation, we find that the pulsations in the radial arteries are alike upon both sides. There is a distinct thrill felt over the tumor, and forcible epigastric pulsation is obtained. We can hardly detect the impulse of the apex of the heart against the chest-wall, but it is indistinctly felt about an inch to the left of its normal position.

By percussing in the region of the tumor, we will find an abnormal area of dulness, extending about an inch to the left of the sternum, and reaching from the first to the third intercostal space. There is no increased dulness upon the right side of the sternum or at the upper portion of this bone. Percussion over the lungs yields vesiculo-tympanitic resonance upon both sides of the chest, which, with the movements of the thoracic walls, and especially the covering of the heart by lung-tissue, would cause us at once to suspect that this man has pulmonary emphysema.

Upon auscultation directly over the prominence we obtain a loud systolic bruit, accompanied by a distinct shock, which is communicated through the stethoscope. This is followed by a diastolic bruit and shock. In listening over the apex of the heart, over an area of about an inch in diameter, a feeble systolic murmur is obtained. The same murmur is heard in the right carotid artery, but it is not heard over the aorta or any other of its branches. No murmurs whatever can be heard over the posterior portion of the chest. Auscultation over the lungs gives us the prolonged, low-pitched, expiratory murmur of pulmonary emphysema.

Upon examining the larynx with the aid of the laryngscope, we find the left vocal cord fixed in the position which it ordinarily occupies during phonation, and immovable during respiration. The right vocal cord is somewhat less mobile than in health. The cause for this immobility is paralysis of the muscles which ordinarily abduct the cord during inspiration. The paralysis is due, no doubt, to some interference with the function of the recurrent laryngeal nerve of the left side. As all of the muscles of the lower part of the larynx are supplied by the recurrent laryngeal nerve, the fact that the right vocal cord moves shows that the nerve upon that side is not greatly interfered with.

We have, in this case, symptoms and signs, some of which are present in a considerable number of diseases, so that our only method of arriving at an accurate diagnosis is by excluding those affections for which we do not find sufficient evidence. We may have in this case an aneurism of the aorta; we may have pulsating emphysema, which sometimes causes a tumor at this part of the chest; we may find consolidation and retraction of the left lung, uncovering the pulmonary artery, so as to give a peculiar pulsation at this point; or we may have stenosis of this blood-vessel, causing slight dilatation and marked pulsation; or the signs may possibly be due to a malignant tumor resting upon the descending arch of the aorta.

In the case before us, percussion and auscultation reveal the vesiculo-tympanitic resonance, increased volume, and prolonged respiratory murmur of emphysematous lungs, which at once enables us to exclude from the category of possible causes of the patient's condition, pulsating emphysema and retraction, or consolidation of the left lung, with extreme pulsation of the pulmonary artery. It is an easy matter to exclude ordinary aneurisms of the aorta, but not so easy to exclude aortic aneurisms presenting to the left of the sternum, and aneurisms, or stenosis, of the pulmonary artery. If this were an aneurism of the aorta, we would expect to find an increased area of dulness in some other position than the one here indicated, viz., the second intercostal space of the left side. This is not present. We would expect to obtain a systolic, and possibly a diastolic bruit over the arch of the aorta, propagated into the carotids, with possibly systolic and diastolic murmurs over the pulmonary area, due to pressure upon the pulmonary artery.

In this case there is a feeble systolic murmur heard at the apex of the heart, and in the right carotid, but neither in front nor behind over the aorta, nor any other of its branches; there is no shock with this murmur, and there is no diastolic bruit; the pulse is alike in the two radial arteries; there are no signs of pressure on the trachea, bronchi, or œsophagus, and therefore ordinary aneurisms of the aorta may be reasonably excluded.

An aneurism springing from the sinuses of Valsalva might give rise to the murmurs heard in this case, but could hardly cause the increased dulness on the left side, and the shock and pulsation limited to the region of the pulmonary artery. An aneurism springing from the descending arch of the aorta, or a long, pouch-like aneurism, such as was found in the case recorded by R. Douglass Powell, might give rise to increased area of dulness, pulsation and bruits in this position, but an aneurism of the descending arch large enough to cause the bulging and pulsation would usually present behind; and even if it did not, must of necessity press upon and obstruct the left bronchus, none of which conditions are present in this case. A malignant tumor, besides causing grave constitutional disturbance, would cause symptoms of pressure similar to aneurisms in this position, and would also yield a larger area of dulness; hence we exclude it. The pouch-like aneurism referred to gave signs very similar to those found in this case, excepting that there was marked throbbing of the carotids, the veins in the neck were turgid, the signs of the tumor were located about an inch lower down, and over the aorta there was a loud systolic bruit with the first sound and accentuation of the second sound with a feeble bruit. These varieties of aneurisms, then, may fairly be excluded.

But an aneurism springing from the anterior surface of the first portion of the descending arch must of necessity compress the left recurrent laryngeal nerve, as is the case with our patient; and it might so press upon the pulmonary artery as to cause stenosis of the main trunk, or one of its branches, and thus occasion a murmur like that heard in this instance, with marked pulsation; but if the pulmonary artery were not considerably dilated, or, in other words, if it had not the form which we call an aneurism, it could not occasion the increased area of dulness and bulging, or the distinct shock which attends the bruit.

Were aneurisms of this blood-vessel more frequent, we need not longer hesitate in our diagnosis; but when Dr. Stokes says, "I would not dare to make such a diagnosis!" it would be presumptuous for us to state positively that this is an aneurism of the pulmonary artery, especially as from the nature of the case this man, being a dispensary patient who is likely to pass from our observation as soon as he becomes either better or worse, we can never hope to verify the statement by the post-mortem evidence, which alone can settle such intricate cases.

Skoda states that dilatation of the pulmonary artery is not infrequent, and, as there is no distinctive line separating dilatation from aneurism, we may be justified in calling an aneurism such a degree of dilatation as will give rise to an increased area of dulness, with a shock communicated to the listening ear. Considering all the symptoms and signs in the case before us, I have no hesitancy in saying that they seem strongly to indicate the presence of this rare affection; for we have in the exact location of the pulmonary artery a strongly pulsating tumor communicating to the ear distinct bruits and shocks, both systolic and diastolic; we have pulmonary emphysema with hypertrophy of the right ventricle, which are among the most common causes of dilatation or aneurism of this artery; we have pressure on the left recurrent laryngeal nerve, which must surely occur with tumors of any considerable size in this locality, and we do not find the ordinary signs of other disease. The condition of the system favoring emphysema, with degeneration and dilatation of the pulmonary artery, would also favor atheromatous changes in the aorta, or at its valves sufficient to account for the feeble murmur heard at the apex and in the right carotid. Yet this might possibly be accounted for by an aneurism of the aorta, which, springing from the anterior surface of the initial portion of the descending arch, would compress the left recurrent laryngeal nerve, and might cause stenosis and dilatation of the pulmonary artery. Whether or not such an aneurism exists, we cannot say; but we may be reasonably certain that, from some cause, the pulmonary artery is sufficiently dilated to warrant the diagnosis of aneurism.

This is one of the rarest diseases which affect humanity. I cannot find more than six or eight cases on record, and out of nearly eight thousand cases of diseases of the chest, which I have treated during the past few years, this is the first of the kind which has come under my observation. Aneurisms will have the same effect upon the wall of this artery as upon the aorta, but from the few cases on record they seem to have generally been of the fusiform variety. They would result from causes similar to those of aortic aneurism, that is, from atheromatous degeneration and obstruction to the current of blood, which here might be due to emphysema of the lungs, or obstruction at the mitral valves; either of which interferes with the passage of blood through the pulmonary circuit, and therefore throws increased strain upon the blood-vessel.

The prognosis in such cases is grave. The exact duration it is not possible to even approximate, because of the rarity of the affection.

To judge from aneurisms of the thoracic aorta, we would be safe in saying that, under ordinary circumstances, the history could not last longer than two or four years; but possibly, by treatment, we may be able to modify the course of the disease in this case. The outcome is certain, unless treatment is very successful, and the final result will probably be due to rupture of the aneurism into some of the surrounding organs.

The treatment in such cases must be guided by what is known of the treatment of aneurisms of the thoracic aorta, and unfortunately this is generally not very satisfactory. A treatment of aneurisms of the aorta which has been found beneficial in some cases, consists of almost absolute rest, placing the patient upon the back, giving him nourishing but plain diet, consisting mainly of meat and bread, and limiting the amount of fluid which he takes daily to a few ounces. It is said that the pulsations of the heart may be reduced twenty thousand in a day by simply placing the patient upon his back; by this course some aneurisms have been greatly benefited, if not completely cured.

Such a course would be indicated in this case.

Another method of treatment, adopted in sacculated aneurisms which present near the surface, is puncture by two needles, and direction through the aneurism of a comparatively feeble electric current; the result is coagulation of the blood filling the sac, and finally, in some instances, a cure. When this method is employed the needles are passed through the base of the tumor, about two inches apart, and a current from four or five cells of a Bunsen's battery is passed for ten or twenty minutes, or until pulsation ceases. The treatment causes some pain, but ordinarily it is not severe. This treatment is only applicable to sacculated aneurisms, therefore cannot be thought of in this case.

There is still another method of treatment which has been attended with very good results, viz., the administration of iodide of potassium in large doses, which diminishes the action of the heart, and also seems to cause thickening of the walls of the artery, and contraction of the aneurismal sac. In such a case as this, where the dilatation is not very great, we would expect good results from a remedy which has the reputation of contracting the artery. The mode of administering this remedy recommended by Balfour is to give about thirty grains three times a day, with chloral or opium at bedtime to quiet the patient. The treatment must be continued for several weeks or months.

In case the symptoms of iodism appear, it should be suspended for a day or two. In a case which I presented to the class three years ago, we had an aneurism of the abdominal aorta, which appeared to be about three inches in diameter; the patient complained of pain, which had lasted three or four months, and which prevented him from attending to his vocation.

In that instance, I gave the iodide of potassium faithfully, with the result of removing the pain completely in two or three months. and ultimately of diminishing the size of the tumor about one-half. The man felt perfectly well afterward, and discontinued the remedy after a year and a half. He is now about his ordinary work, feeling as well as ever.

The remedy in that case was not given in such large doses as recommended by Balfour. With this case I began with ten-grain doses of the iodide of potassium, giving it three times a day; he has since taken it for a few days four times a day, and yesterday I ordered twenty-grain doses four times a day. The flushed nose and suffused eye show that the remedy is acting vigorously, but the patient does not complain of the symptoms of iodism; already the pain in the chest is diminishing, and therefore we will continue the same course of treatment. If unpleasant symptoms arise, the remedy will be discontinued for a short time. He should take the iodide with three or four ounces of water, and at other times drink as little as possible. The first evidence of benefit from iodide of potassium will be diminution or removal of the pain.

Case II.—I have another case to show you this morning, which is also unique. This lad's name in Bennett; he is fourteen years of age, and has for some time been an errand boy, in one of our large retail stores. He has no trouble whatever with his respiration, no cough, and his countenance is ordinarily clear. The only evidence of imperfect circulation is the congested condition of the ear. The patient was brought to me by one of the gentlemen of the class, on account of a loud murmur which can be heard over the chest, and which has probably existed from infancy, as the doctors long ago told him that there was something wrong with the heart. There is no apparent trouble, except this very slight congestion. In feeling over the upper portion of the sternum I obtain a distinct thrill; upon auscultation I obtain a very loud systolic murmur, which is heard all over the chest in front, but with greatest intensity close to the edge of the sternum in the second intercostal space of the right side; it is also heard behind with great intensity over the region of the aorta and under the left scapula; it is heard under the right scapula, but not so intensely. This murmur is heard best in the aortic area, close to the border of the sternum.

Upon examining the pulsation of the radial arteries, I find it alike on both sides; I notice nothing peculiar about the chest; and very little, if any, enlargement of the heart.

Now, if we obtained such signs as this with no history, we would suppose that there was obstruction at the aortic valves; but this murmur has undoubtedly been present for several years. But had obstruction at the aortic orifice really existed for this length of time, the heart, before this, must have become considerably hypertrophied, and he would not be able, as he is now, to perform the ordinary duties of a boy of his age. The symptoms and signs ordinarily attending obstruction at the aortic orifice are not present in this case, and the lad is not old enough to suffer from atheroma; he is not anæmic, and therefore we must suspect an affection of which I spoke to you in a former lecture, viz., stenosis of the aorta. You will recollect that I told you this condition is usually found between the point of origin of the left subclavian artery and the junction of the ductus arteriosus with the aorta.

It seems usually to be produced just after birth, by a clot forming in the duct and extending into the aorta; the contraction of this clot is attended by more or less inflammation of the artery, which, by the contraction of the plastic lymph becomes corrugated or wrinkled; or a band of cicatricial tissue sufficient to throw the blood into an eddy, and thus cause a murmur, may stretch across one side of the artery; or there may be a ring-like construction, or the aorta may be perfectly occluded.

The signs of this affection are a loud murmur, especially in the aortic area, but generally heard over the whole chest, and when the contraction is very great, dilatation of the superficial arteries, especially of the intercostal, and feebleness or absence of the pulse in the popliteal and tibial arteries, associated, if the occlusion is complete, with imperfect development of the inferior extremities and generative organs.

In this case I find that there is no apparent dilatation of the superficial arteries; still we have a loud murmur, feeble pulsation in the arteries of the inferior extremities, and a history of the affection having existed from early childhood. We therefore conclude that in the case before us there is partial stenosis of the aorta, though probably of moderate degree.

The prognosis in this affection is usually unfavorable, though individuals sometimes live for many years after the first signs are noticed.

In this lad we have no symptoms or signs that indicate great interference with the function of the heart, and we may therefore give a favorable prognosis. As to treatment, we simply recommend him to be careful about his work or play, not to throw unnecessary strain upon the heart, or cause it any labor which can be avoided.

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The Princeton Epidemic and its Critics.—A silly item has appeared in reference to the epidemic of typhoid fever which took place last spring at Princeton, N. J. Dr. McCosh is attacked with much turbulent rhetoric, because he referred to the matter as a dispensation of Providence, and, presumably, did not have the drainage attended to. The venerable president is also accused of being a disbeliever in evolution. The facts of the matter, as given in *The Sanitary Engineer*, show that the college authorities had done their best to make the sanitary arrangements of the buildings perfect. The accident to the plumbing, which possibly caused some of the cases of fever, was one that could not have been foreseen, and was what is always liable to happen in any place except Hygeiopolis. The expression "providential dispensation" was an innocent one; and surely a man may still deny that he sprang from ascidians without being subjected to foolish ridicule.

Original Communications.

THE TREATMENT OF POST-PARTUM HEMORRHAGE—WITH CASES.

W. E. FOREST, M.D.,

NEW YORK.

CASE I.—Mrs. D., age 25, fifth child, labor normal and moderately rapid. The only thing noticeable about the case was the presence of a very large subperitoneal fibroid on the fundus of the uterus, that could be felt through the walls of the abdomen. During the second stage of the labor the patient inhaled a small amount of chloroform. Ten minutes after the birth of the child the placenta was expelled by contractions excited by ergot and by Credé's method. While my hand was still kneading the uterus, I felt it relax and enlarge, and I discovered a stream of blood flowing from the vagina. I immediately carried my hand into the uterus and turned out the clots, and then discovered two large *submucous* fibroids at the fundus. The fact that the woman was a quadroon explained the presence of these three good-sized fibroids; while the presence of the fibroids explained perhaps the post-partum hemorrhage. The uterus, after a short contraction, again filled with blood. Meantime the nurse was trying to get the Davidson's syringe in working order that I might use hot-water injections. In this attempt she failed completely, and I despatched the husband after a new syringe. During this delay, despite my manipulations of the uterus, with one hand on the abdomen and the other in the vagina and uterus, the hemorrhage continued, and my patient began to present signs of collapse. In this alarming emergency I made my first trial of *vinegar*. Dipping a cloth into a cup of vinegar, I rolled the cloth into a wad and carried it into the uterus. The effect was magical, and my hand and the cloth were quickly expelled by a strong contraction. About two minutes later the uterus commenced to relax, and a slight flow commenced, which was speedily checked by carrying the cloth into the cervix.

The patient made a good recovery.

CASE II.—Mrs. M., age 38, mother of seven children. Called at midnight in consultation with another physician. Found both arms hanging from the vagina with the shoulders impacted in the pelvis. The presence of the second arm was due to the attending physician mistaking the hand for the foot when he attempted version, and thus he had brought down the second arm. Ether was administered and podalic version was attempted. Owing to the long-continued impaction of the shoulder, this was exceedingly difficult, and it was fully an hour before the child was delivered—dead.

While I was making attempts to resuscitate the child the attending physician called my attention to the condition of the mother. She had not recovered from the anæsthetic, and now she was collapsed and pulseless. I found the uterus distended with blood and a profuse flow from the vagina. The collapse I supposed to be due to the exhaustion, the long-continued use of the ether, and the hemorrhage combined. I introduced my hand and turned out the clots, but the uterus again refilled. In this alarming emergency, when every moment's delay was dangerous, and when there was at hand not even a Davidson's syringe, I resorted again to the use of vinegar. I quickly carried a cloth saturated with strong cider-vinegar into the uterus, with the result of causing immediate contraction and the checking of the hemorrhage. A second application caused firm contraction of the uterus.

The woman made a good recovery.

CASE III.—Mrs. A., age 25, fourth child, labor tedious. Soon after placenta was delivered, and while my attention was turned to the child, the mother became very faint. I found the uterus very much enlarged and blood flowing from the vulva. The woman was blanched and restless and had all the signs of an alarming hemorrhage. I promptly introduced my hand into the uterus and turned out the clots, and then as soon as possible carried the nozzle of a Davidson's syringe into the uterus and injected hot water. Firm contraction of the uterus came on speedily, and the bleeding soon ceased. During the application of the hot water a faint color came into the woman's lips, as if the hot injection had acted as a stimulant to the general circulation. The woman made a good recovery.

CASE IV.—Mrs. H., age 26, primipara. At the beginning of the eighth month of pregnancy she was suddenly taken with a convulsion. I saw her in consultation a short time after the first convulsion. An examination of her urine showed it to be loaded with albumen. She had œdema of the feet very marked, puffiness of the hands and face, and had had œdema of the lungs, though this condition had now disappeared. The patient had a staring look, irregular pupils, and was much confused mentally. In spite of treatment the convulsions followed each other in rapid succession until chloroform could be procured and the patient kept under its influence. In this condition we determined to induce labor immediately. While the patient was kept under the moderate influence of chloroform, the Barnes dilators were used, and in an hour the os was dilated so as to admit the application of the forceps. Thus far the os had dilated easily, slight pains had come on, and everything promised a speedy delivery. The lips of the os were, however, thick and leathery, and instead of retracting over, the forceps came down before them and were soon presenting at the vulva. No amount of traction or manipulations with the hand could bring the head through the os uteri until I had nicked the os with a bistoury in several places and had allowed free bleeding from the incisions. Then the head was delivered with only a moderate laceration through the posterior lip of the os. Meantime my patient having come partly out from the influence of chloroform, went into another severe convulsion. This was the sixth convulsion, and she was never conscious again. The child was dead. The placenta was speedily delivered by making pressure upon the fundus uteri. Immediately after the placenta was delivered flooding commenced. Fearing that this accident might occur, owing to the complete uterine inertia that had been present during the latter part of the operation, I had standing by the bed a Davidson's syringe and a kettle of hot water. The gentlemen assisting me gave the patient two drachms of ergot hypodermically while I at once turned out the clots from the uterus, and carrying the nozzle of the syringe into the uterus, commenced the injection of hot water. The uterus made a feeble effort to contract and expelled my hand, which was still within the uterus, but it almost immediately relaxed and the flow recommenced in an alarming manner. I again carried my hand and the nozzle of the syringe into the uterus and injected a large quantity of water as hot as I could bear my hand in. There was no further contraction of the uterus and the flooding was more profuse than ever. The condition of my patient was now very alarming. She had been under the influence of chloroform about four hours, except for a few moments' interval, during which she promptly went into convulsions; she was losing blood very rapidly, and the methods for controlling the hemorrhage that had never failed me before were now utterly useless. My hand in the uterus seemed to be in a loose, flabby pocket. In this emergency I despatched a messenger to the nearest drug store for tincture of iodine, and during his absence I carried the largest-sized Barnes dilators into the uterus and pumped it full of ice-water. Pressure was at the same time made upon the abdominal aorta and cold water dashed upon the patient's abdomen. No contraction of the uterus and no check to the hemorrhage. At this juncture the iodine arrived, and diluting one-half with hot water I immediately injected it into the uterus. The effect was magical; the uterus contracted quickly and the bleeding ceased. After a few minutes a slight relaxation of the uterus took place, but a second injection of iodine caused a firm and continuous contraction. In spite of every effort to stimulate my patient's flagging energies she steadily sank, and died in a few minutes. The uterus remained firmly contracted after death.

Case V.—Mrs. M., age 26, taken in labor June 15, 1880. I was called to see her at 1 P.M.; found the os undilated, vertex presenting, pains slight and recurring about every half-hour. I learned that at her previous labor a year ago she had a very difficult delivery, that the child was delivered by forceps, dead-born, and I found on examination that the perineum was lacerated completely through into the anus, and that she had prolapse of the bladder.

The labor progressed very slowly, and at midnight the os was dilated to the size of a copper cent. The woman was tired and sleepy, but not exhausted, and under the influence of morphine rested well until morning. At 10.30 A.M. I gave chloroform, and dilated the os with my fingers until I could apply the forceps, when I succeeded in delivering the child safely in about ten minutes. The child was a male, of good size, and alive. After the delivery of the child, the mother rallied well from the chloroform, and everything seemed favorable. The uterus contracted on the placenta under manipulations on the abdomen, but the placenta could not be delivered.

After nearly an hour's manipulations the placenta was still undelivered, and now a stream of blood was flowing from the vagina. I then passed my hand within the uterus, and found the placenta adherent to its anterior wall. The upper border of the placenta was detached, and from this site I judged that the hemorrhage proceeded. The rest of the placenta was firmly adherent, and on attempting to detach it, I found that its maternal surface had undergone calcareous degeneration. With considerable difficulty I succeeded in detaching the placenta with my fingers, tearing it several times in so doing. On removing the placenta, a profuse hemorrhage followed. I at once turned out the clots, and carried a sponge dipped in vinegar into the uterus, and made compression over the fundus and upon the abdominal aorta. The flow still continued, and I repeated the application of vinegar several times. The flow was not checked, and I commenced injecting hot water into the uterus. My hand upon the woman's abdomen could feel the uterus distend with the water, much as would a rubber bag, but no contraction of the uterus followed.

My patient was now in a most dangerous state. In spite of the fact that her head had been lowered, and that she had swallowed glass after glass of undiluted brandy, she was blanched and unable to see her friends standing around her. Owing to a misunderstanding, the iodine, for which I had sent some time before, did not arrive, and as the most liberal injections of hot water and the use of vinegar, with simultaneous compression of the fundus and abdominal aorta, and the exhibition of ergot, had failed to control the flow, I despaired of the woman's life. At this moment the messenger arrived with the tincture of iodine. I at once diluted two ounces of the iodine with an equal amount of water, and injected it within the uterus. The uterus contracted almost immediately and expelled its contents. It then relaxed after a few minutes, and a slight flow recommenced, when I injected *two ounces of undiluted tincture of iodine.* There was no more bleeding, and the uterus remained contracted.

On account of the feeble condition of my patient, I bandaged her extremities with roller bandages and had her kept quiet, with her head low. She made a good recovery, and had no septic symptoms during her convalescence.

Case VI.—Dr. Alexander Hunter related to me the following case: In July, 1876, I was sent for in great haste by a midwife to see a woman who was bleeding to death. On my way to the case I procured a bottle of tincture of iodine, perhaps half an ounce. I found the woman in a room at the top of a tenement-house, the child born, but the placenta undelivered, and a very serious flooding taking place. The case was a desperate one, and there was not even a Davidson's syringe in the house. I at once removed the cork from the bottle, and then carried the bottle of iodine up to the fundus uteri with my hand, and allowed the tincture of iodine to run out. I then allowed my hand to remain in the uterus until a contraction came on, which was almost immediately, when my hand, the placenta, and the other contents of the uterus were expelled. There was no further hemorrhage, and the woman made a good recovery.

These six cases of post-partum hemorrhage (to which I might have added the notes of two or three others of minor importance) were typical cases of this most dangerous accident. In the treatment of them I employed nearly all the known methods, namely, ergot internally and hypodermically; the introduction of the hand into the uterus and removal of the clots, combined with compression of the uterus through the abdominal walls; compression of the abdominal aorta; the application of vinegar to the inner surface of the uterus; the introduction of ice and of the Barnes dilator, filled with ice-water, into the uterus; the injection of hot water; and, finally, the intra-uterine injection of tincture of iodine.

In studying the histories of the cases given above it will be seen at a glance that these methods of treatment have different values in the different kinds of cases, and that methods of treatment that are useful in mild cases may be more than useless in severe ones. Let us review them briefly.

The introduction of the hand into the uterus and the removal of the clots is a proceeding of the utmost importance in every case. In some cases this introduction of the hand, combined with pressure upon the fundus of the uterus with the other hand, is sufficient to excite the uterus to contract and thus to control the hemorrhage. In any case, before an application can be properly made to the interior of the uterus, the hand must be introduced and the clots removed.

The use of the Barnes dilator should be placed in the same category as the ether-spray and the Faradic battery, as methods more fanciful than practical. They are undoubtedly of value in some cases, if the physician should happen to have such instruments with him when post-partum hemorrhage occurs. But in severe cases they would not control the hemorrhage. In cases where there is a slight but continuous flow after delivery in a debilitated person, the battery would be of use in exciting the uterus to contract firmly.

The administration of ergot hypodermically is a valuable measure in post-partum hemorrhage, and it may be used in conjunction with any of the other methods of treatment. But ergot should be given per orem only as a prophylactic measure. The patient's stomach should be used, during the hemorrhage, for the absorption of brandy and other stimulants.

The compression of the abdominal aorta may be used to good advantage, especially in thin women. If an assistant be present he can manipulate the uterus and compress the abdominal aorta at the same time.

The use of ice and ice-water within the uterus is a measure recommended in all text-books. It is a valuable measure in some cases, but if it does not speedily control the hemorrhage its use must be discontinued. The effect of cold is first to excite uterine action, but if it be long continued, it paralyzes the muscular fibre, so that the hemorrhage becomes more profuse than before. *Hot water*, on the other hand, when injected into the uterus, is one of the most efficient methods we have for controlling post-partum hemorrhage. Not only will it usually check the hemorrhage, but it seems to stimulate the general circulation as well. I have observed the pallid lips of the patient become red while administering intra-uterine injections of hot water for post-partum hemorrhage. The water must be given as hot as it can be borne, injected rapidly and in large quantities. I once believed that intra-uterine injections of hot water were an efficient method of treatment for every case of post-partum hemorrhage, but in Cases IV. and V. it failed entirely.

The intra-uterine injection and application of vinegar is one of those methods of treatment that was well known to the older writers on obstetrics, but in the advance of medical knowledge it seems to have been left behind and forgotten. It is but recently that I have seen this method advanced as a new and original plan of treatment. The vinegar controls the hemorrhage, not through its styptic qualities, but by stimulating the uterus to contract. In many cases it is an efficient method of treatment, and the strongest vinegar may be freely applied to the interior of the uterus without fear of causing bad results.

One advantage this method possesses over many others is that the necessary materials are at hand in every house—a piece of cloth or sponge, and a little table-vinegar, are the means for controlling some of the most alarming hemorrhages.

Tincture of iodine as an intra-uterine injection to control hemorrhage was brought prominently to the notice of the profession by Dr. T. A. Emmet, of this city. So long ago, however, as 1857, Dr. Dupierris, of Havana, Cuba, published an article, giving the histories of three cases of post-partum hemorrhage where injections of tincture of iodine were made into the cavity of the uterus with the most excellent results. But his cases failed to attract the attention they deserved, and his method did not then come into practice.

Speaking from my own experience, I should say that the injection of tincture of iodine is the most safe and by far the most efficient method we possess for controlling post-partum hemorrhage. A study of Cases IV. and V. will show that almost every other method had been tried and had failed before iodine was resorted to, and yet this controlled the hemorrhage speedily and completely. It is in just such cases as this that the striking superiority of iodine over *everything else* will be manifested.

In this country the virtues of iodine in post-partum hemorrhage are quite well understood, but in England, and, so far as I know, in other European countries, it has not been used. English obstetricians, for the last few years, have followed the teachings of Dr. Barnes in severe cases of post-partum hemorrhage; namely, the injection into the uterus of the solution of persulphate or perchloride of iron. The results of such treatment—as given to us in the reports of a discussion before the London Obstetrical Society, in 1873, and in reports of cases in almost every number of the *Obstetrical Journal* of Great Britain and Ireland since that time—are not such as to lead the profession in this country to adopt such treatment in preference to the use of tincture of iodine. In the report of autopsies after the use of the persalts of iron as a uterine injection, the uterus was found, in some cases, to be filled with hard clots of decomposing blood, while pus and hard thrombi were found in the uterine sinuses. In some cases the internal surface of the uterus had sloughed away in a mass after the use of the iron. Dr. Snow Beck, in the discussion mentioned above, stated that he had seen nine or ten cases result in death after the use of the salts of iron. He believed that the styptic enters the uterine sinuses and coagulates the blood in them, and that when decomposition takes place, as it certainly must, everything is favorable for the absorption of matter and the development of septicæmia.

While then the injection of a solution of the persalts of iron will usually control post-partum hemorrhage, its use is not unattended with danger.

In summing up the advantages of the iodine treatment of post-partum hemorrhage we may state them briefly as follows:

1st. Iodine controls the hemorrhage, not by coagulating the blood within the uterus, but by exciting the uterus to contract. The blood is expelled in a liquid form, and hence, instead of leaving the uterus filled with a mass of hard, sticky clots, ready to undergo decomposition, the uterus is empty and disinfected.

2d. Tincture of iodine has never, so far as I can learn, caused any bad result, even when injected into the uterus in full strength. Thus, in Case V. nearly six ounces of tincture of iodine were injected (four of them without dilution), and yet no bad effects followed its use.

3d. The iodine treatment never fails to control the hemorrhage.

There have been other methods than those given above brought forward for the treatment of post-partum hemorrhage, but none of them, I believe, will be found superior to those given. In the treatment of disease it is a good plan to try the best remedy first; and while this is true in most cases, it is especially true in that alarming and dangerous accident, post-partum hemorrhage.

No. 1 Charlton Street.

A CASE OF COMPLETE TRANSPOSITION OF THE VISCERA OF THE THORAX AND ABDOMEN.

Reported by Dr. WILLIAM PIERSON, Jr.,
ORANGE, N. J.

Mr. G——, aged sixty-five; born in New York; married; six feet in height; robust; lumber merchant. Died July 31, 1880. Early in childhood he observed that the impulse of his heart could be felt on the right side of the chest. It gave him no concern, as he supposed it was the proper place for it.

As he grew older, and learned that the heart was ordinarily on the left side, he consulted physicians in reference to it.

Some supposed it was a congenital transposition, others, that the heart had been pushed over by pleuritic effusion.

Until about a year ago he had enjoyed continuous good health. He was then attacked with dyspnœa, which became more and more serious until the time of his death. He also had anasarca, and his urine contained albumen and casts.

The impulse of his heart was just below the right nipple and about three inches from the centre of the sternum. The valvular sounds were normal. There was an audible bruit over the upper part of the sternum. The interest in the case centres in what was revealed at the autopsy, viz., a complete transposition of the viscera of the thorax and abdomen.

On laying open the abdomen the liver was found on the left side, the lobe to the left being the largest. The proportions of the liver were normal, and the relations to each other of the lobes and fissures were as usual, only they were in inverse order from right to left. The round ligament was to the left of the median line. The gall-bladder bore its usual relation to the liver; but an attack of hepatic colic would have been on the left side. The cardiac end of the stomach was to the right, the pylorus and duodenum to the left. The spleen was found in the right hypochondriac region. The cæcum was in the left iliac fossa, the sigmoid flexure of the colon in the right, and the rectum entered the pelvis from the right.

When the sternum was raised the viscera of the thorax was also found transposed. The apex of the heart pointed to the right side, the left (ordinarily the right) ventricle being anterior. The aorta was given off to the left of the median line, the arch being directed to the right and descending on the right side of the vertebræ. The innominate artery was on the left, and as usual, the first branch; then, in order from left to right were given off the right common carotid and right subclavian arteries.

The venous side of the heart was toward the left, the venæ cavæ being on the left side and entering the left auricle (normally the right).

The right lung had two lobes, the left lung had three.

The pathological conditions were as follows:

The kidneys contained numerous cysts, and were smaller than normal, the cortex being very much contracted. They presented the appearance of the granular kidney.

In the pleural cavities there was a large amount of serum; most of this had probably settled here by gravity since death, as there had been marked anasarca during the last few days. The pericardium contained a quart of blood, with soft dark clots.

The visceral pericardium around the left pulmonary artery was deeply ecchymosed; this condition extended up the origin of the aorta for one inch and a half. No break could be found in the pericardium to account for the presence of the blood. On section, this ecchymosed condition was seen to correspond to a clot effused between the serous and fibrous layers of the pericardium, the posterior coronary artery passing directly through it. Both coronary arteries were carefully examined, but neither of them presented a source for the hemorrhage, although the posterior was very much enlarged and the seat of atheromatous deposit. The other vessels at the base of the heart were all carefully examined, but none of them presented any rupture by which blood could have escaped.

The aorta was atheromatous and dilated, and its tissue tore like wet paper.

The heart was hypertrophied, particularly the right (the arterial, normally the left) ventricle, with dilatation of its cavity; but the valves were healthy and competent.

The patient presented the pathological conditions usual to Bright's disease.

The clot at the base of the heart was probably due to rupture of small diseased arteries running in the layers of the pericardium, and was probably the source of the blood found in the pericardium. The symptoms noticed in life may easily be accounted for by the disease of the kidneys and the consequent condition of the arterial system. His death, which was sudden, was probably due to syncope.

The following gentlemen were present and assisted at the autopsy:

Drs. J. C. Young and Van Wagener, of Newark; Dr. Wilmarth, of East Orange; and Drs. Bayles and Harvey, of Orange.

Reports of Hospitals.

PENNSYLVANIA HOSPITAL, PHILADELPHIA.

Clinical Service of Dr. R. J. LEVIS,
SURGEON TO THE HOSPITAL.

FRACTURE OF THE PATELLA TREATED BY A MODIFICATION OF MALGAIGNE'S HOOKS.

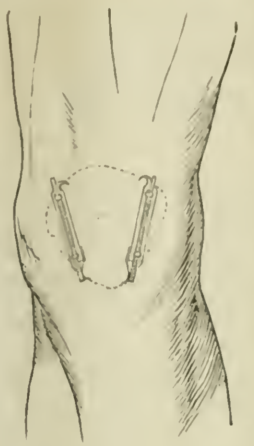
In this hospital fractures of the patella are exceedingly common, but it has been only within a few years that the treatment has been at all satisfactory. Previous to that time the attempt to bring the fragments into apposition was usually more or less unsuccessful, and the various dressings with splints and strips of adhesive plaster were uncomfortable and inefficient. Now, I always use the modified Malgaigne's hooks, and am well pleased with the results obtained by their employment.

First, however, let me speak of the causation and diagnosis of patella fractures. It was formerly believed, and is still maintained perhaps by some authorities, that this bone is usually broken by direct violence. Such is not the case in the majority of instances. Comminuted fractures undoubtedly do occur at times from direct violence to the part, but the well-known simple transverse fracture of the patella results from muscular contraction. This is evident from the fact that usually the patient falls after the fracture has occurred, and shows no abrasion or contusion of the integument of the knee. He tells you that he slipped, endeavored to regain his balance, then felt pain in his knee, and perhaps fell backward. The same thing is shown by the fact that sometimes the muscular contraction tears the extensor muscle from the bone, instead of fracturing the patella itself. Such a case was shown by me to the class a year or two ago. These instances are rare, because the bony tissue will rupture more readily than the fibrous tissue forming the tendon of the quadriceps muscle. There have been only two cases of rupture of the tendon admitted into this hospital during many years, but fractures of the bone are exceedingly common. In one case it was suggested to cut down upon the torn tendon and suture the parts together, but the proximity of the synovial membrane made the operation one of some risk, and it was not adopted. Moreover, there seemed to be a slight attachment of the vastus externus untorn, though the main part of the quadriceps was separated from the bone to a sufficient extent to exhibit a deep gap. The limb was kept extended, and the patient recovered fair use of his limb, though there still remained a slight depression just above the patella, showing the seat of injury. The other patient referred to did not gain such good use of his leg, and when discharged was obliged to walk with a cane.

The cause of simple transverse fracture, then, is the violent contraction of the quadriceps extensor muscle.

The symptoms of the injury are: inability to extend the leg, a distinct gap between the fragments, crepitus on manipulation when the pieces of bone have been brought together, and some effusion in the joint. The upper fragment may be drawn up several inches, but the lower retains its normal position, because the ligament of the patella has no muscular power to cause displacement. Flexion of the limb greatly increases the separation. It must be remembered that occasionally fracture occurs without causing much tearing of the fascia overlying the bone, and then the displacement will be slight and the diagnosis somewhat difficult. The cure in such cases is good with any form of treatment. In other instances, as in a case in the ward some years ago, the force may be great enough to tear open the joint and produce a compound injury. The patient, a woman of middle age, had sustained a fracture of ordinary kind some months previously. The knee was still somewhat stiff, and ligamentous union with about one-half inch separation existed. She slipped and fell, and when brought to the hospital exhibited a refracture of the bond of union with a transverse rupture of the tissues directly into the joint, so that the articular surfaces of the femur and tibia were exposed. Notwithstanding the serious complication, she speedily recovered, though there remained much separation of the fragments due to the impossibility of applying apparatus. The diagnosis of fracture of the patella is generally an easy matter, though at times the condition may be obscured by the amount of swelling due to the accompanying synovitis. Indeed, it is probable that the effusion has some agency in increasing the amount of separation of the fragments.

The treatment by attempting to draw down the upper fragment with strips of adhesive plaster, or a combination of straps and splints, I have abandoned. These measures tend to interfere with the blood-supply of the bone, and are uncomfortable to the patient. Moreover, it is rarely that perfect apposition can be obtained. My former method was to elevate the limb with the knee extended, to relax the rectus muscle, and then to apply strips of plaster above the upper fragment to draw it downward, and below the lower one to steady it. At the present time I employ a more radical and more efficient method. Many years ago Malgaigne devised the hooks which bear his name for the treatment of this fracture, but they were used for a few years and then discarded by the profession. Recently, however, this means of getting approximation has been revived in this hospital, and Dr. Morton and myself seldom, if ever, employ any other form of treatment. I have separated the double hooks of Malgaigne, and use single hooks, which, as you see, necessitates the employment of two screws. The fragments can be more accurately adjusted by the two sets of single hooks than by the double hooks originally used. The bone's surface is uneven, and as the line of fracture is frequently slightly oblique and irregular, it was found difficult to get the double hooks firmly embedded. With the modified hooks which I employ, trouble of this kind does not occur. I am inclined to have the next set of hooks made with clamps, somewhat like the obstetric forceps, instead of with screws; for after the parts are properly adjusted the long screw is in the way, and it is seldom required to tighten the screw after the first application of the dressing. The method of treating fractures of the patella, then, is as follows: when the patient is admitted the limb is placed upon a pillow and kept at rest for a week or ten days, with some anodyne or evaporating lotion applied. If there is very great synovial effusion, aspiration may be resorted to in order to hasten its removal. When inflammatory symptoms have subsided, the patient is anæsthetized, and the parts held together by the fingers of an assistant. I then, as you see, thrust the hooks firmly into the tissues overlying the bone, and screw the corresponding hooks firmly together until I find the fragments are in close and accurate apposition. It is not absolutely necessary to give an anæsthetic, but we ordinarily do so. In inserting the hooks it is not possible to wound the cavity of the joint, as I have verified by experiments on the cadaver. The knee is then kept extended, and carbolized oil is applied over the points of puncture, which do not give pain or incline to suppurate. There forms about the hooks a little crust of lymph which I leave undisturbed. It is not likely that all the force I apply caused the instrument to penetrate into the bone itself, but the points remain embedded in the tendon and fascia. The patient will complain less of this form of treatment than of the method in which the limb is enveloped in adhesive plaster and bandages. To those who have not followed out this treatment it may seem to be accompanied with risk of erysipelas and abscess, but such has not been my experience. I use this plan of treatment exclusively in hospital and private practice. At the end of four or five weeks the hooks are removed, and the patient



allowed to go about with a silicate of sodium dressing, to keep the knee rigid. Subsequently this is removed and passive motion instituted.

The number of cases in which the various forms of hooks have been used in the hospital is quite large; and my experience of the cases in my own and in Dr. Morton's ward, coupled with a number in my private practice, has caused me to change my former opinion, which was averse to the employment of Malgaigne's hooks.

The apposition obtained is usually almost perfect, and it may be asserted that it is the only method by which osseous union can reasonably be expected. In some of my cases measurement has shown the two patella to be of the same length after the hooks have been removed; and in a recent case it was not possible to be certain of the exact line where fracture had existed. This is far better than the separation of a half or three-quarters of an inch, so often seen after treatment by the usual methods.

The hospital has upon its records many cases treated by hooks, which will, I think, convince you that the treatment here described is preferable to any other. This conclusion, you must recollect, has not been reached hastily; for it is three or four years since I treated the first case by hooks, and many others have been cured by the same measures. In all the cases which I have treated in this manner the result appears to have been complete synostosis or bony union, and there have occurred no severe local or constitutional symptoms.

Progress of Medical Science.

Copper a Preservative against Cholera and Typhoid Fever.—At the meeting of the *Académie de Médecine de Paris*, on March 30th, M. Burq read an interesting paper on this subject. The paper gave the particulars and results of a number of observations and researches, which prove that workers in copper enjoy an almost complete immunity from cholera, and also to an almost similar extent from typhoid fever. It seems to be necessary for this immunity, however, that the copper-powder with which the system is impregnated should possess a certain degree of purity, *ex. gr.*, not be attenuated too much by admixture with iron-dust, and that the exposure to the copper-dust should be constant. In view of these facts, the therapeutic value of the internal administration of copper in typhoid fever and cholera becomes a question of much interest.—*Jour. de méd., etc., de Bruxelles*, May, 1880.

Coca in the Opium-Habit.—In the *Louisville Medical News* for May 29th, Prof. Palmer published an article on coca as an antidote to opium-eating, and gave abstracts of a few cases in which he had tried it with the happiest results. The article evidently attracted general attention, and several additional cases of the successful use of coca to break up the opium-habit have already been reported from various sources. The coca seems to act as a general nerve-stimulant, counteracting the terrible depression which follows the attempt to break off the use of opium, and curing the craving for that drug. In most of the cases so far reported, a cure was effected in a little over a week. In some of them the opium was discontinued gradually, but Dr. Palmer advises that the break-off should be made at once. According to him, the coca is to be used as *a substitute* for the opium. It should therefore be taken as freely as the cravings of the system for opium may demand—tablespoonful doses of the fluid extract several times a day, more or less, as needed.

Piscidia Erythrina (Jamaica Dogwood)—A New Narcotic.—This tree belongs to the family leguminosæ, and grows in Jamaica in arid districts. The active principle is contained mainly in the bark of the roots. The drug is stated to be a direct sedative, producing narcotic effects which are refreshing, and not followed, like opium, by hyperæmia of the brain, nausea, and general nervous disturbance. Dr. Isaac Ott has recently studied experimentally its physiological action, and published the results in the *Detroit Lancet* for June. As the active principle has not yet been extracted, he used in his experiments a so-called infusion, obtained by mixing an ounce of the fluid extract of the bark with an equal quantity of warm water and evaporating the whole down to about five drachms, the object being to get rid of the alcohol. His experiments show that we have in piscidia a drug capable of producing death by arrest of the respiratory apparatus. Frogs seldom recover from a moderate dose of the drug. The following conclusions are drawn from the experiments:

1. Piscidia is narcotic to frogs, rabbits, and men.
2. It does not affect the irritability of the motor nerves.
3. It does not attack the peripheral ends of the sensory nerves.
4. It reduces reflex action by a stimulant action on the centres of Setschenow.
5. It produces a tetanoid state by a stimulant action on the spinal cord, and not by a paralysis of Setschenow's centres.
6. It dilates the pupil, but the dilatation passes into a state of contraction upon the supervention of asphyxia.
7. It is a salivator.
8. It increases the secretion of the skin.
9. It reduces the frequency of the pulse.
10. It increases arterial tension by stimulation of the monarchical vaso-motor centre.
11. This increase of tension is soon succeeded by a fall, due to weakening of the heart itself.

If the action of piscidia be compared with that of chloral, it is found that it has no such dangerous action on the heart as the latter, nor such an energetic action on the respiratory apparatus. Unlike atropia, it does not paralyze the motor nerves nor the chordæ tympani, does not arrest the sudoral secretion, does not paralyze the pneumogastric, and does not elevate greatly the arterial tension; like atropia, it dilates the pupil. Like morphia, it produces sleep, heightened excitability, spinal convulsions, general paralysis, and stimulation of the main vaso-motor centres; unlike it, it dilates the pupil. It may be mentioned here that several cases have been reported lately in which piscidia was used successfully as a substitute for opium in the treatment of various neuralgias.

The Odor of Iodoform.—According to Dr. Lindemann, the balsam of Peru completely masks the odor of iodoform, three parts of the balsam neutralizing perfectly one part of iodoform. To them may be added as vehicle, eight parts of vaseline, glycerine, alcohol, or collodion. The balsam and iodoform should be carefully mixed together first, and the other ingredients added afterward.

Simple Method of Reducing Paraphimosis.—In some severe cases of paraphimosis, where the ordinary manipulations failed to effect a reduction, M. Bardinet employed the following manœuvre with success: he inserted the convex ends of three hair-pins at regular distances apart, beneath the constricting ring, and over the bridge thus formed the foreskin was drawn down with the greatest facility. —*Allg. med. Cent. Zeit.*, June 2, 1880.

Occlusion of the Coronary Arteries.—The arrest of the blood-supply to the walls of the heart in consequence of disease in the coronary arteries, is a well known pathological factor in certain morbid states of the heart's walls. The effects of such arrest have been studied experimentally by several investigators, who found that it caused rapid enfeeblement of the heart's action. Lately, the subject has been reinvestigated by Grünhagen and Samuelson, who have ascertained several new facts. By keeping rabbits under the influence of curare and artificial respiration, they were able to compress the coronary arteries by means of forceps, and to do this repeatedly, so as to observe the comparative effects of arrest and renewal of the flow of blood. The compression caused at once a retardation of the rhythmical action of the heart, especially of the left ventricle, while the contractions of the right ventricle were at first more rapid, and then were also slowly retarded. The slowing of the action increased the longer the compression lasted, or after several repetitions, until finally the contractions ceased, first of the left and later of the right ventricle. A second effect of the compression was weakening of the heart's contractions. This was also observed and estimated by the manometer by Bezold, and it was corroborated by Samuelson with a galvanoscopic frog. As soon as the heart became pale and the contractions were less frequent, these were no longer sufficiently powerful to excite the sciatic nerve of the frog, but after the current of blood was renewed, the nerve again responded. The experiment was repeated several times in the same animal. A third fact noted was that the compression of the left coronary artery caused a gradual swelling of the left auricle, which was distended until it appeared like a bright red, shining bladder, its rhythmical contraction lessening to an oscillating movement, which finally ceased. This phenomenon was observed when the left ventricle was weakened and its action retarded, while the right auricle and ventricle continued to contract strongly. As soon as the compression was stopped and the left ventricle began again to contract, the distended auricle emptied itself in one to two minutes, and both sections of the heart were again in uniform action. This phenomenon constitutes a striking illustration of the mechanism by which obstruction at the mitral orifice or weakness of the left ventricle leads to auricular dilatation and to œdema of the lungs.—*The Lancet*, June 19, 1880.

Case of Perforation of a Round Ulcer of the Stomach into the Left Ventricle of the Heart.—Prof. Chiari presented the specimens illustrating this accident to the *Vienna Medical Society*, in May last. The patient, a woman, seventy-one years of age, had died shortly after her admission to the hospital. The symptoms were hematemesis and passage of blood from the intestines, and the clinical diagnosis was ulcus ventriculi. At the autopsy a round hole two centimetres in diameter was found in the lesser curvature of the stomach. This opening led into a sac as large as a walnut, formed by cicatricial tissue; the sac extended through the diaphragm, pericardium, and wall of the left ventricle of the heart, and presented at its apex an ulcerative opening large enough to admit an ordinary probe into the left ventricle. The heart was closely adherent to the pericardium over a space eight centimetres square; the mitral, tricuspid, and aortic valves were thickened at their free edges; the muscular tissue of the heart was pale and friable, and had undergone moderate fatty degeneration; the endocardium was thickened for a distance of one centimetre around the perforation. The stomach and intestines contained a large quantity of fresh blood. The body generally was very anæmic. In the wall of the sac, close to the opening into the stomach, a hard, brittle mass, two millimetres long and about one millimetre thick, was found. Chemical examination showed that this particle was composed chiefly of silicates, and it was probably a piece of glass that had been accidentally swallowed at some time. Dr. Chiari attributed no special importance to this foreign body, as he thought that it had merely found a lodgment in the sac subsequent to the formation of the latter. He stated that he had been unable to find in medical literature any analogous case of the opening of a round ulcer of the stomach into the cavity of the heart.—*Allg. med. Cent. Zeit.*, June 9th.

Iodoform in Affections of the Eyes.—M. Hayer states that iodoform is a very valuable remedy in the treatment of certain subacute and chronic affections of the eye and the eyelids. It has been employed with advantage, particularly in the treatment of granulations. He recommends it also for ulcers of the cornea, obstinate keratitis, etc. The fine iodoform powder should be applied directly to the affected spot by means of a hair-pencil. For application to the lids he uses a salve of one part iodoform to four parts vaseline. The iodoform causes no pain, and can therefore be employed without difficulty in the case of children. The remedy is useless during the watery stage of conjunctivitis.—*Allg. med. Cent. Zeit.*, June 9, 1880.

Gaultheria in the Treatment of Purulent Cystitis.—M. Perier recommends the essence of wintergreen as a local application in cases of purulent cystitis. This essence is a powerful antiseptic, but it has the disadvantage of being very insoluble. M. Perier employs the following solution: essence of wintergreen, 6 grammes; tincture of quillaya saponaria, 30 grammes; water, 1 litre. He uses this solution freely for washing out the bladder, with excellent results, and also as a wash for wounds, and for simple dressings. He also combines one part of the essence with one hundred of vaseline, and uses it to anoint his instruments, and often for his hands, in antiseptic operations.—*Journal de méd. et de chir.*, May, 1880.

Restoration of the Hand after it was almost Completely Separated from the Arm.—Dr. Staton, of North Carolina, reports the case of a girl, eleven years of age, whose hand was almost completely severed from the arm by a blow with an axe. The wound extended obliquely through the carpus, and all the muscles, bones, and blood-vessels were divided, the hand remaining attached to the arm only by a small strip of skin below the articulation with the ulna. Dr. Staton saw her about thirty minutes after the accident, and found the hand hanging at right angles to the arm. He determined to amputate at once, but abandoned this intention because of his inability to procure assistance. After some delay occasioned by this change of plan, he replaced the hand, and secured it in position with silver wire sutures and adhesive plaster. The child complained of pain when the needle was used in the arm, but not when it was used in the hand. The hand and arm were then secured on a broad splint, and kept warm by being wrapped in hot flannel cloths. Twelve hours later the hand was very much swollen; no sensation or pulsation could be detected; the patient had complained of no pain, and had rested quietly during the night. On the next day she complained of a little pain, but the hand and arm presented the same appearances. On the third day the hand had changed color, and pulsation could be detected in it. From that time the patient did not have a bad symptom. There was no suppuration, the wound healing entirely by first intention. The sutures were removed on the fourteenth day, and the hand placed in a sling. Within three months after the accident the patient could extend the fingers, and grasp with nearly the usual strength. No anchylosis of the wrist-joint resulted.—*Medical and Surgical Reporter*, June 19, 1880.

TREATMENT OF PROLAPSUS ANI IN CHILDREN.—Dr. Basevi (*Giornale Internazionalle delle Scienze Mediche*, Fasc. 9) employs the following treatment in chronic cases of this affection. He first cauterizes lightly the protruding portion with nitrate of silver and then reduces it, administering afterward, with the view of checking any tendency to enteritis, an enema of tannic acid, alum, and ice-cold water. Should this treatment prove insufficient, the child is placed on a bed with the nates upward, and steadied by two assistants, one of whom fixes the upper part of the body while the other holds the knees elevated and somewhat abducted. The prolapsus having been reduced, the nates are brought together, and two strips of diachylon plaster, each about two inches wide, are passed from one trochanter to the other in as close proximity as possible to the perinæum. To keep them in place, a spica bandage is applied around the lower portion of the body, and a piece of guttapercha is added to protect the plaster from the contact of fæcal matter. The apparatus may be left in position for two weeks.—*London Medical Record*, June 15th.

INJECTIONS OF MORPHIA IN INTESTINAL OBSTRUCTION.—One grain of morphia injected subcutaneously three times a day, in a case of intestinal obstruction which lasted for thirty-nine days, met with excellent results at the hands of Dr. W. H. Lambert.—*London Lancet*, June 26, 1880.

A NEGLECTED SYMPTOM IN BREAST-CANCER.—Dr. Herbert L. Snow, Surgeon to the Cancer Hospital at Brompton, England, calls attention to a symptom which very commonly occurs in the course of breast-cancer, and on which sufficient stress has not been laid. He refers to a thickening of the humerus on the side corresponding to the diseased gland, accompanied by tenderness on pressure. This condition obtains mainly over the trochanters and the upper third of the bone. On firm pressure the patient complains of tenderness, which extends for a variable distance down the shaft, beyond the part where thickening is apparent. The movements of the arm are rarely interfered with, and the tenderness and thickening are never noticed by the patient before examination; they are only detected by digital pressure and comparison with the humerus on the opposite side. Occasionally there is some thickening of the clavicle. The condition never advances to any very marked hypertrophy. Dr. Snow regards the "thickening" as due to a low form of periostitis, consequent upon deposit of cancer-germs in the medulla.—*London Lancet*, June 12, 1880.

MORPHINE AS AN ANTIDOTE TO DATURINE AND ATROPINE.—Dr. Strömberg reports the case of a child of five years, who was almost fatally poisoned by eating the seeds of the datura stramonium, the alkaloid of which is very closely allied to atropine. Three other children, between the ages of three and seven years, ate the seeds at the same time, but in them the symptoms, though severe, were not alarming. The first child had an exceedingly rapid, thready pulse, stertorous and very irregular respiration, and almost continuous clonic spasms, which were so violent that his body was tossed about in the bed. At frequent intervals he uttered a hoarse, inarticulate cry. The pulse gradually became irregular, the other symptoms remaining the same. Death seemed imminent, and morphine was resorted to as a last hope. One-third of a grain, divided into three doses, was injected subcutaneously within the space of an hour. After the first injection the pulse became fuller and less rapid, and the respiration soon began to improve. The spasms became less constant, the intervals between them rapidly increasing in length, and after two hours all danger seemed to be over, although the patient continued restless for several hours, when he finally fell into a quiet sleep. Dr. Strömberg thinks that the morphine undoubtedly saved the child's life, and that the case demonstrated the existence of an antagonism between morphine and daturine. This conclusion is fortified by the fact that the dose of morphine, though very large for a child of that age, did not produce sleep.

Dr. Leder reports the case of a girl, seventeen years of age, who took by mistake five ctgrms. (five-sixths of a grain) of atropine in one dose. He saw her eight hours later and found her exceedingly restless, and constantly trying to get out of bed. She knew no one, paid no attention to calls, and seemed to be suffering from pain and to be worried by hallucinations. The pupils were very wide and the eyeballs prominent. The respiration was very rapid, the pulse 150 in the minute, and the voice tremulous. An emetic was administered with much difficulty, and 0.007 morphine (about gr. $\frac{1}{8}$) was injected subcutaneously every twenty minutes. After the second injection the delirium began to diminish, and after the fourth the patient fell asleep. The pulse was then 110, and the respiration 17. After three hours' sleep the patient awoke in the full possession of her senses. Convalescence was rapid.—*Berliner klin. Wochen.*, July 5, 1880.

ATROPINE AS AN ANTIDOTE TO MORPHINE.—A case of poisoning by the hypodermic injection of morphine was recently observed in the medical clinic in Halle. The patient, an adult man, was deeply cyanosed, especially his face and hands, and profoundly comatose. The respiration was very slow, the pulse slow, weak, and irregular, the temperature in the rectum 97°, and the pupils were excessively contracted. Artificial respiration by methodical compression of the thorax was immediately resorted to, and one milligramme of atropine was injected. Half an hour later, as the patient's condition was unchanged, ten milligrammes of atropine were injected at a dose. Fifteen minutes afterward the cyanosis had disappeared, and the pulse was more regular, although still only 40 in the minute. During the next twenty minutes, ten milligrammes more of atropine were injected in different parts of the trunk, the artificial respiration being still kept up. Ten minutes after the last injection the pulse was 60, and the pupils had regained their normal width; in an hour and a half the pupils were dilated to the maximum, the heart-sounds were clear and free from murmurs, and the pulse was 80. The coma still persisted, but it now began to diminish gradually. On the following morning, twelve hours after the administration of these immense doses of atropine (twenty-one times the maximum dose in Germany), the pupils, pulse, and respiration were normal. The patient said he had no headache, and complained only of formication in the fingers and toes. A few hours later the mydriasis returned, and it now persisted for several days. The patient was formerly an opium-eater, but had been compelled, by want of money, to do without opium for the two or three years preceding this attack of acute poisoning. On this occasion he had accidentally got hold of a solution of morphine, and took at once six injections containing 0.28 morphine (gr. 4⅓). The amount of the antidote employed in this case was one-thirteenth of the amount of the poison taken.—*Berliner klin. Wochen.*, July 5, 1880.

Coffee as an Antidote to Strychnia.—D. Attilio Lilli reports a case in which a large dose of strychnia was taken in coffee without producing any toxic effects. The case led him to experiment with these drugs on rabbits, and he found that the coffee acted as a perfect antidote to the strichnia, completely annihilating its toxic action, or, at all events, notably diminishing the violence of its action.—*La France médicale*, July 7th.

Fibromatosis, or General Hyperplasia of the Connective Tissue.—Under the name fibromatosis Professor Beneke, of Marburg, describes a peculiar constitutional anomaly, which is characterized by a great tendency to connective-tissue hyperplasia in the different organs of the body, and which is more closely allied to the constitutional anomalies resulting in hyperplastic new-growths than to the phthisical process, although it often presents itself under the form of pulmonary phthisis. These cases of phthisis pulmonum are characterized, even after death, by the powerful build of the body, the marked development of the panniculus adiposus, and the blood plethora, all of which contrast strongly with the destructive process in the lungs, as well as with the external appearances in cases of ordinary phthisis. The changes in the lungs in these cases are very various, but they all seem to begin with hyperplasia of the connective tissue. In some cases the lesions consist chiefly in a marked thickening of the interstitial connective tissue, the contraction of which leads to atrophy of the pulmonary tissue as the result of compression, and to irregular dilatations and contractions of the larger bronchi. In such cases often no traces of caseous degeneration of the new-growth can be found. In other cases the interstitial connective-tissue hyperplasia is less predominant. The bronchial dilatations are larger, and bronchiectatic cavities are developed, in the neighborhood of which more or less numerous fatty and caseous masses are found. In still other cases these lesions are found, perhaps, in the upper lobe, while in the lower lobe miliary tubercles or peribronchitic caseous nodules are met with. Between these forms and true caseous desquamative pneumonia there is no other intermediate form. For both classes of cases the clinical diagnosis must be pulmonary phthisis. The pleuræ usually present large thickened areas. The liver, kidneys, and spleen are usually hard in consequence of extensive growth of the interstitial connective tissue; the heart is, as a rule, hypertrophied.

Now, Prof. Beneke believes that, just as there is a general hyperplasia of the adipose, the bony, and the epithelial tissues, so there is in these cases an analogous hyperplasia of the fibrillar connective tissue of the body, resulting from some obscure modifications of the general constitutional condition and the nutritive changes. These modifications, probably, differ but little from those which lie at the bottom of the known hyperplasias just mentioned. This theory finds a support in those cases where the pleuræ and peritoneum are studied with countless nodules, varying in size from a millet-seed to a pea, which resemble, at first sight, miliary tubercles, but are shown by microscopic examination to be minute fibromas. Prof. Beneke would also cover with the mantle of fibromatosis those cases of pachymeningitis in robust individuals, where death results from interstitial nephritis, and where, at the autopsy, connective-tissue hyperplasias are also met with in the lungs, serous membranes, liver, etc. Further, the granular kidney, in robust individuals, which has been so much spoken of in late years, likewise belongs, in all probability, in the same class; this would harmonize well with Buhl's theory, that the connective-tissue thickening in the serous membranes, heart, and lungs, is the result of a "fibrous inflammation."—*Deutsche medic. Wochen.*, July 17, 1880.

Occipital Headache as a Symptom of Uræmia.—Recent observations on the symptomatology of Bright's disease disclose the fact that severe pain located in the occiput may be regarded as one of the symptoms of the disease. Dr. E. C. Seguin has recently met with two cases (*Archives of Medicine*, August, 1880) in which occipital headache was so localized and persistent, as to give rise to a strong suspicion of organic disease of the cerebellum. In one case a positive conclusion was only reached by means of a post-mortem examination, which showed that the cerebellum and the other parts of the encephalic mass were normal, while both kidneys were extensively diseased. The left kidney was found completely diseased, granular and hard in places, its membranes peeling off with difficulty. It had a reddened, congested appearance, and showed evidences not only of a chronic trouble, but also of a more recent acute inflammatory action. The right kidney was found to be only partially affected—somewhat congested, and with the same type of lesion. These cases both now appear to have been examples of contracted kidneys and uræmia. Both patients were adults, had suffered from chronic headache, more or less of the migraine type; at a given period the headache became transformed into a localized occipital pain very different from the former attacks. The symptoms of renal disease were not marked; in one case there was no œdema, in the other a mere trace; neither patient had the dyspeptic symptoms or the frontal headache which often suggests renal disease, and neither patient had the "Brighty look" which is so well known. The occipital sensation in these cases was true pain, not the painful paræsthesiæ which are sometimes due to lithæmia and oxaluria, and sometimes to eye-strain, and which are erroneously (or rather insufficiently) designated as cerebral hyperæmia. In Case II. the pain extended down the cervical spine, and was so much aggravated by movement as to suggest a rigid state of the neck. In Case I. there was once stiffness of the neck in an attack. This peculiar headache was distinctly paroxysmal, but not at all periodical or influenced by any apparent outward circumstance. In both cases nausea accompanied the headaches, and in Case II. it is clearly stated that the nausea was secondary in point of time. Case I. was made relatively clearer by the previous history of convulsions and albumen in the urine.

Dr. Seguin is inclined to believe that the publication of these cases may serve to render more accurate the diagnosis of occipital headache, and to illustrate the utility of critically examining the urine in cases of any degree of obscurity, more especially as occipital headache is scarcely mentioned as a symptom of uræmia.

A Rare Form of Uterine Hemorrhage.—A rare case of uterine hemorrhage is reported by Henry Gorst, house surgeon of the Lying-in Hospital, Liverpool, in the *British Medical Journal* of July 3d. Patient, æt. 28, after a natural labor, got up on the ninth day, and went about her household duties. Seven days afterward, she was taken with a profuse hemorrhage, which was controlled by plugging the vagina and rest in bed. No hemorrhage followed the removal of the plugs. Three days after the removal, hemorrhage recurred so profusely as to leave her in a state of collapse. She was again plugged by another surgeon, and the hemorrhage ceased. On the following day she was removed to the hospital, the plugs were removed and iron and ergot were administered. She was kept in bed for five days, when she had a sharp attack, losing a large quantity of blood in a very few minutes before she was tightly plugged. In the evening the plugs were removed. The uterine sound showed the uterus to be in its normal position, and its cavity only measured three inches. The external os was patulous, but the cervix was too tightly closed to allow the introduction of a finger; two sea-tangle tents were therefore passed up to the fundus, and kept in position by two good-sized pads of lint in the vagina. An attack of hemorrhage occurring during the night, the tents being in position, led the doctor to suspect that the hemorrhage came from the cervix or vagina. In the morning a Ferguson's speculum was introduced, and on the cervix, just at the lower edge of the posterior lip of the os, a good-sized artery was seen distinctly pulsating. There was some superficial erosion of both lips of the os, but no laceration. There was no hemorrhage now, and the vessel was distinctly seen plugged with a clot. Touching it with a point of a probe soon dislodged the clot, and the hemorrhage again came on *per saltum*, the blood spurting to the middle of the speculum. The vagina was packed slightly and the discharge temporarily arrested. Three days afterward hemorrhage again occurred. The liquor ferri perchloridi and the actual cautery proved ineffectual. The patient was now nearly pulseless, and transfusion was resorted to. Blood not being readily procurable, a pint of Little's saline solution at 98° was injected into the median cephalic vein. Immediately after the injection the pulse, which was previously scarcely perceptible and from 160 to 180 a minute, became considerably stronger and slower. Next day she rallied somewhat, the pulse became more perceptible; slight oozing of blood continued through the plugs; and the vomiting became constant. She continued in this condition until the evening of the following day, when she died. At the necropsy only the pelvic viscera were examined. An artery, equal in size to the ulnar, was found quite patent, at the lower edge of the posterior lip of the os uteri. On dissection it was found to be a branch from the uterine, which produced a loop in the cervix, extending as low down as the edge of the os, and ulceration through it had taken place at the point of bleeding.

Homatropin—A New Mydriatic.—The discovery of homatropin by John Tweedy, F.R.C.S., bids fair to become one of great value and utility in ophthalmic practice. It is a bland but efficient mydriatic; its action is rapid and of comparatively short duration. It possesses many of the properties of atropine, but in a weaker degree. On the heart, however, their effect is very different, for atropine accelerates and strengthens the heart's contraction in man, whereas homatropin slows the beats and renders them irregular in force and rhythm. Though relatively weaker than atropine, its action on the iris and the ciliary is really very powerful while it lasts. The chief peculiarity, and, in some respects, the great advantage of homatropin is, that its effects soon pass off, and certainly do not last near so long as those of atropine. It is also unirritating. Dr. Sidney Ringer confirms the experiments of Tweedy.—*London Lancet*, May 22, 1880.

Changes in the Seminal Fluid in Connection with Gonorrhœal Epididymitis.—These alterations have already been studied, in France, by Gosselin and Godard. Dr. Terrillon has lately given much attention to the subject, and from an analysis of twenty cases he draws the following conclusions: Epididymitis causes changes in the spermatic fluid, both as regards its color and the nature and interproportion of its anatomical elements. Such alterations vary with the phases of the disease. During the acute stage the semen has a more or less decidedly yellowish green appearance, resembling pus. This color is due to the presence of a variable quantity of pus-corpuscles. Large granular globules are also found in some number. The spermatozoa may be absent after the first few days, but in some cases they may be found living and well formed in the purulent fluid, but diminished in number. They may continue to be present for a variable period, and may even persist throughout the course of the disease. The mixture of the pus-corpuscles and granular globules, frequently containing spermatozoa, can only be furnished by the inflamed mucous membrane of the seminal passages, as is shown by its identity with the fluid found in the vas deferens at some autopsies. This fact also shows that a purulent catarrh of the seminal passages takes place in these cases.

After the termination of the acute period of the epididymitis, the same spermatic alterations may still be met with. But the color of the semen is no longer so distinctly purulent, the pus-corpuscles are diminished in number, the spermatozoa are generally absent, and there is a predominance of liquid ingredients. These changes may persist for long periods; sometimes they continue indefinitely long, especially in cases where the spermatozoa fail to reappear. In cases of unilateral epididymitis all these changes are less clearly marked.—*Annales de dermatol. et de syphil.*, July, 1880.

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Perfumed Carbolic Acid is a solution of the acid in alcohol with oil of lemon added. The proportion is: carbolic acid, 1; oil of lemon, 3; alcohol, 100.

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THE REGULATION OF PROSTITUTION.

CERTAIN statistics were published several months ago, relative to the effect which the regulation of prostitution has upon the population and social condition of countries in which that system is established. The countries especially referred to were France and Belgium. It was shown, first, that prostitutes and concubines were less fruitful than married women, and that the children of the former had less chance of living. The regulation of prostitution, it was claimed, had a tendency to diminish the number of marriages and increase concubinage. The final results were a lessening of the prominence of the family in the state, a lowering of the birth-rate, and a decrease in the population of the country. France and Belgium were brought forward as practical illustrations of this tendency.

The editor of the St. Louis *Clinical Record*, discrediting the accuracy of these conclusions, if not of the statistics, has recently brought out some counter-evidence. He prints tables showing that "regulation" is efficient as a sanitary measure, as shown, especially, by the relative amounts of venereal disease in the English and French armies. He also presents figures showing that the birth-rates in France are not much lower than those in some other countries, notably in Ireland, a country which has a deserved reputation for the chastity of its women. His conclusion is that regulation is an efficient and useful measure, that the alleged decrease in population does not of itself indicate a bad state of affairs, but perhaps the reverse, and that the asserted decrease of families and increase of concubinage is due to other causes than the regulation of prostitution.

While agreeing in part with the views thus advanced, we have been unable to corroborate some of the statistics given to support them; and the importance of the subject warrants an attempt at their correction. In regard, especially, to the question of the sanitary and political benefits of regulation, there are some glaring inaccuracies. A table is given, for instance, in which the number of cases of venereal disease is put down as follows:

English army..............	363 per 1,000
French army..............	103 per 1,000

Now, according to a synopsis made from the British army reports (*Westminster Review*, July, 1876), the proportion of venereal diseases in the British army in 1872 was about 223 per 1,000. The proportion at the present time is somewhat less than this, both in stations where prostitution is regulated by the contagious diseases acts, and where it is not. The proportion given of 363 per 1,000 is that which existed seventeen years ago, and the fact that statistics so old as this are presented throws doubt over the value of the whole tables. In regard to the French army, the ratio, as given by the chief of the Statistical Department, was, in 1874, 103 per 1,000 for the army in general. For that part quartered in Paris and Versailles, it was over 109 per 1,000 instead of 21, and in Algiers 198 per 1,000 instead of 63. These are the figures as given in documents furnished by the French Statistical Bureau.

The facts, then, are briefly these: in the French army prostitution is regulated, and venereal disease exists in the proportion of about 103 per 1,000. In the British army regulation also exists in fourteen stations, and here venereal disease exists in the proportion of about 223 per 1,000; in the other stations the proportion of venereal disease is slightly greater, opinions differing as to how the difference should be considered.

These facts do not show that regulation, as applied to army stations, fails to lessen venereal disease, a thing which we are not disposed to doubt; but it proves that the measure secures no such wonderful results as might be inferred from comparing the figures 106 with 323. Furthermore, we have heretofore taken the ground that the sanitary success of regulation, as applied to armies stationed in garrison towns, gives no proof that such regulation will succeed, or be advisable, from any point of view, in other places. It has seemed to us, from an examination of all the facts accessible, that in nearly all general communities where prostitution has been regulated, its sanitary benefit has been either nothing at all, or has been entirely outweighed by attendant evils.

In regard to the other statements that have been quoted regarding births, marriages, and their relation to prostitution, we have here also been unable to substantiate many of them. The conclusions drawn on each side seem to be premature. France, for instance, does have the smallest birth-rate of any European nation, but she has had this most of the time for one hundred and fifty years, while regulation proper began in Paris in 1823. This birth-rate, though lower than it was fifty years ago, is not decreasing now, or was not up to 1878. In 1868 it was 26.2 per 1,000; in 1875, 26.4 per 1,000. The surplus of births over deaths in 1877 amounted to several thousands.

Again, in Belgium the population is very far from diminishing in number. From 1830 to 1877 it increased yearly at the rate of one per cent. The surplus of births over deaths has also steadily increased, and was, in 1877, 60,808, in a population of five millions. It is not possible for any changes to have occurred since 1877 that could be relied upon as indicating a permanent difference in the tendency of the population. And so far the facts seem to agree with the views of the *Clinical Record.* We have, however, to correct one other error in that generally accurate journal. It gives in a table the proportion of births per 1,000 women in several European countries. It finds that of Ireland to be 114 per 1,000, which is almost as low a rate as that of France; and the inference is considered probable that birth-rates are not lessened by the prevalence of licensed prostitution. Now the birth-rate thus assigned to Ireland is not correct, but is only the approximate estimate given in making up the returns of vital statistics. In the various numbers of the *Journal of the Statistical Society,* where these figures are quoted, an editorial note is always appended stating that the rates of births, marriages, and deaths, as reported, are smaller than is actually the case. No conclusions can be drawn, therefore, from the vital statistics of Ireland.

On looking over the statistics of countries in which regulated prostitution exists, however, there are two things which strike one, and these sustain somewhat the theory of the evil effect upon a nation of regulating prostitution. Thus, for example, in Belgium the number of marriages is yearly decreasing; and in France the number of illegitimate births is yearly increasing and is greater than in unregulated countries like Great Britian. In Belgium, the number of marriages in 1873 was 40,598; that in 1877 was 36,962, the population meanwhile increasing. In France, the proportion of illegitimate to legimate births in 1815 was 1 to 20; in 1877 it was 1 to 14. The proportion in Paris now is 26.75 illegitimate to 100 legitimate births. In London it is 5.75 to 100. In the Department of the Seine, the proportion of illegitimate births in 1877 was 25.21 per cent. In Scotland, on the other hand, the proportion in 1878 was 8.5 per cent.

We are far from assuming that the regulation of prostitution is the sole cause of the above differences. But it is one of the factors in it, and these differences mean a great deal. A decrease of marriages and increase of illegitimate births implies a weakening of domestic ties and a diminution in the importance of the family as a social unit. Upon the integrity of the family rests the strength of the nation.

It is not such questions, however, that we are called on to discuss, and we wish now only to bring out the fact that doubts hang over the political expediency of regulating prostitution. As to its sanitary efficacy we can speak more strongly and with greater confidence. It is only under certain conditions that the sanitary benefits have justified the adoption of regulation in any of its present forms. We add here a little evidence on this point. The municipal government of Zurich, in abolishing regulation in 1874, said: "The opinion that tolerated houses are a preservative against contagious diseases is refuted by modern statistics, and supported at present only by a minority of opinion among the faculty, and by the tenacity of inveterate prejudice." A similar opinion is given by Dr. Castiglioni who was government inspector charged with applying the *regulations at Rome.* The reports of M. Le Cour, chief of the Bureaux des Mœurs, of Paris, have the same tenor. The fact that now, after more than twenty years of vacillating policy, the open recognition of licensed houses is at an end throughout the German Empire, confirms this view that regulation, as it has been carried out so far, is an inadequate sanitary measure.

ALCOHOL IN HOSPITALS.

THE report of a committee formed at St. George's Hospital to ascertain the comparative use of alcohol in the large London hospitals, together with some recent reports from the London Temperance Hospital, have drawn attention to the subject of the amount of alcoholic liquors proper to be given to the sick, and especially to hospital patients. The experience of the London Temperânce Hospital in this matter is the most unique, and deserves to be widely known. This hospital, in the past eighty months of its existence, has treated about nine hundred in-patients and eight thousand out-patients entirely without the use of alcohol, even in the medicines. The principles on which the institution is conducted are:

1. That alcohol shall not be given as a beverage; 2, that it shall not be given in medicines in the form of tinctures; 3, that it shall only be administered as a medicine and upon a written prescription of the physician. Practically, it has not been found necessary to prescribe alcohol at all. The tinctures used are made with glycerine instead of alcohol; and this, by the way, is a practice that will, no doubt, eventually be largely adopted by pharmacists, since glycerine is a better preservative and ensures more uniform strength. The cases treated in the hospital have been of ordinary severity. A number of amputations have been performed, as well as ovariotomy, Cesarean section, ligature of the common carotid, etc. The mortality has only been 4½ per cent., which is certainly a very good showing. There were three classes of cases among the out-

patients which are generally treated with alcohol, but which were not given any in the present case. These were cases of phthisis, cases of indigestion, and cases of general debility from overwork or underfeeding. No statistics are given to show exactly how these patients got along without alcohol; but we are assured by the medical officer that he never in any instance found that it was necessary to prescribe it.

The report of the St. George's Hospital committee gives figures which indicate a very large, and, it would seem, excessive use of alcohol in the majority of the London hospitals. It should be remembered that it is the custom in most of these institutions to give out beer as part of the regular diet. We find that in St. Bartholomew's Hospital, which treated 5,868 patients in 1878, the cost for liquors was about $5,700. In the Middlesex Hospital where 2,040 patients are annually treated, $2,700 is spent for alcohol. At Guy's Hospital, the figures are: patients, 5,710; annual cost for liquors, $5,000. On an average, the London hospitals pay from eighty cents to a dollar per patient for liquors. In only two or three hospitals are the sums expended very small. At Westminster Hospital 1,763 patients are treated, at an annual cost for liquors of less than fifty cents per patient; and at St. George's Union Infirmary 2,496 patients were treated in 1878, at a total cost for wine, beer, and spirits, of about $40.

In most of our New York hospitals the cost per patient for liquors is from a quarter to a third less than it is in the London institutions. Thus, in Bellevue Hospital, where liquors are prescribed without stint, when thought necessary, 5,986 cases were treated in 1878, at a cost of $2,982.42; in Charity Hospital, in 1878, the patients were 8,574, the cost for liquors $3,109.02. Among our endowed hospitals there is a great variation in the amount of liquor consumed. Roosevelt Hospital and the Massachusetts General Hospital present, perhaps, the two greatest extremes. In the former 1,617 patients are treated annually, with an expenditure for liquors of $719.13. In the latter the liquor bill for its 1,813 patients is $2,070.60. If anything at all is shown in these figures, it is that alcohol is, as a rule, given much more indiscriminately and extravagantly in hospital practice than is at all necessary. When a dozen hospitals report about the same mortality rates whether they pay a cent or a dollar and a quarter per patient for alcohol, there can be but one conclusion drawn. The temperance or semi-temperance hospitals of London have helped to show this if they have done no more. Despite the better showing which most of our hospitals make, we believe that much more alcohol is given than is at all necessary. The blind faith in the potency of alcohol as a stimulant, whenever the pulse gets weak or the lungs begin to rattle, has sometimes a pernicious result. The administration of alcohol as a tonic is attended with risk and uncertainty. There should be greater judgment and greater economy applied in prescribing what may be a potent remedy, a dangerous poison, or simply a useless and expensive beverage.

Reviews and Notices of Books.

WOOD'S OPHTHALMIC TEST-TYPES, EXPLANATORY TEXT TO, AND COLOR-BLINDNESS TESTS. By G. R. CUTTER, M.D., Surgeon New York Eye and Ear Infirmary, Ophthalmic and Aural Surgeon St. Catharine's and Williamsburg Hospitals, etc., etc. New York: Wm. Wood & Co. 1880.

IN a very compact form we have all the necessaries for a complete testing of the refraction of the eye and also the color sense.

In a box 24 × 10 are the following materials, viz.: eleven plates, ten of which are test-plates; plates Nos. 1 and 3 (Snellen's) for distant vision; plate No. 2 (Snellen), arranged for those unable to read, used for distant test; plate No. 4 (Snellen) for near vision; plates Nos. 5 and 6 (Jaeger) for near vision; plates Nos. 7 and 8 (Wecker), tests for detection of astigmatism; plate No. 9 (Green), dial test for astigmatism; plate No. 10, test for astigmatism and for detecting the equilibrium of the muscles; plate No. 11, illustrating the mistakes of the color-blind, after Holmgren. Then we have four concave and four convex lenses for testing various degrees of refraction; these few lenses are amply sufficient, as by combining them a large variety of changes can be obtained. No cylindric lenses are given; but a stenopaic slit, by means of which the amount and degree may be determined, as explained in the text. Next, we have a holder with three grooves to fix the glasses in position, the arrangement of which is simple and new. Then come one hundred skeins of Berlin worsteds (Holmgren's test-skeins) for determining color-blindness, the test-skeins marked with tags so that no mistake can be made.

Then we have the most important of all, the "Explanatory Text," by Dr. Cutter. A more competent ophthalmologist could not have been chosen; in fact, one wonders how he could condense the whole subject so clearly and definitely in fifteen pages, —six of which are devoted to color-blindness—which has assumed so much importance of late.

The text begins by explaining the principle upon which Snellen made his test-types, and then proceeds to show how to record vision accurately. Then an explanation of what is hypermetropia, myopia, presbyopia, and astigmatism. An explanation of the trial-glasses follows, with an approximate equivalent of the old and new (dioptric) systems, with a table of combinations that can be made with the glasses.

The last six pages are devoted to "Color-Blindness," giving the Young-Helmholtz theory, with four figures illustrating it. Finally, the book concludes with Holmgren's directions for using the test-skeins.

We are certain that this case will meet a need long felt, especially among the busy practitioners who often want to determine whether the patient has any organic disease or only some refractive trouble—and with this inexpensive case he can readily do so—and, as is stated in the preface, it is "to enable the family physician to decide whether his patient requires the special services of an oculist."

In conclusion, we congratulate Dr. Cutter on his having done his part so well, and William Wood & Company on their new venture.

Transactions of the American Gynecological Society. Vol. IV. 1879.

It is naturally with some diffidence that we approach the criticism of a work prefaced by the announcement that "the reviewing of medical literature is, in this country, in a condition of deplorable fatuity;" and any self distrust thus aroused could not fail to be increased by the impressive elegance of green and red and gold in which the volume before us appears. The book looks too unspeakably genteel for any criticism, fatuitous or profound. It would be a tasteful addition to the bric-a-brac of a lady's boudoir, or to the Kensington needlework of a Fifth Avenue parlor. And he is a monster who would not treat so effulgent a piece of workmanship with tenderness.

Its contents have been given to the public quite fully in previous numbers of the Record. No extended analysis, therefore, will be required now. But we will venture to discuss some of the points made in the addresses and papers; and if we criticise with fatuity, it shall not be with ignorance or dishonesty.

Dr. Thomas's address on "The Gynecology of the Future and its Relations to Surgery" is suggestive and striking. We venture to say, however, that if some of the distinguished orator's ideas are stripped of the pleasing rhetoric in which they are clothed, they will appear decidedly *naïve*, to say no worse. Dr. Thomas complains of the injury which the spirit of dogmatism has caused to his specialty. He makes the complaint with justice, but he does not go to the bottom of the question. Dr. Thomas ascribes this dogmatic spirit, and most of the consequent imperfections of gynecology, to the difficulty in, and lack of, clinical teaching; and he would have a gynecologist attached to every general hospital, who should operate and expound before the general public. Now, this plan might be occasionally useful; but that it would be the cure-all for gynecological idiosyncrasies, is absurd.

It will occur to those at least who are not professed gynecologists, that this specialty needs more mental equipoise, not to say actual brain-matter, quite as much as it does more clinical opportunities.

It is a fact in general medicine and surgery that, where different men obtain astonishing results in the same disease only when they use their own particular measures, these men are either crafty or foolish, or the disease goes its course without regard to them. Why things should be different in gynecology it is hard to see.

We have occasional gynecological clinics in this city, but they do little more than satisfy the curiosity of first-course medical students. That they should bring harmony into the treatment of the displaced womb or the diseased cervix is beyond the dreams of anything but inordinate faith.

Another remedy suggested for the vagaries of gynecological therapeutics is the establishment of a kind of gynecological literary bureau, which shall pass in searching review all the contributions to its department of quasi-science. Now, gynecology has some good men and true, as Dr. Thomas asserts; but how, alas, shall we know who they are? Shall it include those who, following the motto of their Society—

"Ohne Hast
Aber ohne Rast,"

stitch and stitch the cervix, or of those who cut it off; of those who medicate the endometrium, or of those who send its owner to Europe; of those who slit the cervix, or of those who plug it with tents, or of those who denounce both measures? Shall there sit upon this gynecological Parnassus, pessary men or anti-pessary men; and, if the former, what kind shall be used, and how far up shall they be advised to extend, in criticisms not "deplorably fatuitous." Would this bureau advocate the knife or constitutional treatment the more; would it be a spaying or an anti-spaying organization? And would they advocate kolpoecpetasis or kolpokleisis? We confess that we await with impatience the work of this prospective body which is to create an era in the reviewing of medical literature.

Dr. Thomas briefly goes over the history of gynecology, and, with a masterly comprehensiveness not unworthy of Buckle, strikes the key-note of its recent rapid progress. This particular note is the discovery of anæsthesia. The point is worked out with much eloquence; but indeed we have heard of this discovery before, and it would be a relief to read an an annual address that did not refer to it. The discovery of anæsthesia has been the backbone of annual addresses for so many years that he who introduces it now must consent to be accused, if not of fatuity, at least of vacuity of presentable ideas. Besides, there are other important causes of the popularity of gynecology which the orator forgot. One of these is the women themselves. Not especially women as owners of the organs that have been so vigorously experimented with in the last fifty years, but women as possessors of that peculiar mentality which makes them like to see and be treated by "their own doctor," and to believe themselves victims of the different fashionable diseases of their sex. Women have thus given an impulse to gynecology which should be duly acknowledged.

We have made these few criticisms upon Dr. Thomas's address because they seemed to be demanded by the honest criticism of which gynecology, as he admits, is so much in need. We have not a great deal to add in regard to the other articles in the book. Dr. White's and Dr. Battey's papers, on Intra-uterine Medication, are very good pleas for a plan of treatment that was but half endorsed in the subsequent discussion. The papers on Intra-uterine Injections, by Drs. Jenks and Chadwick, present measures for the treatment of septicæmia already quite widely known and adopted. Dr. S. C. Busey's paper on the Pathology of the Cicatrices of Pregnancy was too learned and scientific for the Society, which fatuitously passed it by without discussion. Dr. Mundé's paper on Prolapse of the Ovaries has been already widely discussed, and is an excellent contribution to a comparatively new subject. The same may be said of Mr. Spencer Wells's report of his case of Battey's operation. Dr. John Byrne advocates the galvano-cautery for kolpocystotomy, in a paper on that subject. Dr. A. D. Sinclair presents some facts in regard to the subinvolution of the uterus, which are new and instructive. Dr. Isaac E. Taylor defends the use of the forceps in the first stage of labor in certain cases. Papers by Dr. Wm. Goodell, on Clinical Notes on the Elongation of the Cervix Uteri; by Dr. Jos. Taber Johnson, on Mismanaged

Labor; by Dr. J. C. Reeve, on A Case of Extra-uterine Pregnancy, with Successful Application of Electricity, follow. Dr. Ely Van de Warker, in a paper on The Relations of Symptoms to Versions and Flexions of the Uterus, shows that there are no specific symptoms of versions or flexions of the uterus. His conclusions, on the whole, rather throw discredit upon the neat little tables of symptoms which Dr. Thomas embodies in his descriptions of each particular displacement. Dr. Byford describes his method of gradual reduction of a chronically inverted uterus, in a paper on that subject. Dr. W. T. Lusk does the best he can to make the very uninteresting subject of the justo-minor pelvis attractive. Plates, and the history of the case are given.

Dr. Nathan Bozeman writes with intolerable diffuseness on the subject of Kolpocepetasis versus Partial Kolpokleisis.

A new method of performing decapitation is given by Dr. W. L. Richardson; some cases of atresia vagina are given by Dr. Isaac E. Taylor, with remarks upon treatment.

The volume closes with a biographical sketch of the late Dr. Marmaduke B. Wright, by Dr. Theophilus Parvin. The book, as a whole, will take a fair rank among society proceedings. But it comes very far from having a value which would compensate for its extremely dandified appearance.

THE BLACK ARTS IN MEDICINE, WITH ANNIVERSARY ADDRESS. By JOHN D. JACKSON, A.M., M.D. Edited by L. S. MCMURTRY, A.M., M.D. Cincinnati: Robert Clarke & Co. 1880.

"THE Black Arts in Medicine," which is the title of one of the addresses making up the neat volume before us, was first published several years ago for private distribution. The talented author, since dead, embodied in an address before a local society a letter from an old practitioner to a younger brother detailing the manner in which the latter should get into practice, by the exercise of what he pleases to call the "black art." In the easy and pleasant corresponding style he brings the reader face to face with the many little tricks resorted to by the pushing practitioner, and proves how easy it is to gull the public. Starting with the assumption that "the chief end of the doctor is to get practice," he is inclined to make everything bend to it, including the little brains which are necessary to that end. The whole principle of this sort of success, in our author's estimation, is comprised in seizing the many chances which present themselves to the wide-awake man of blowing his own horn or in having it blown by some of his friends.

It would be impossible to follow our author through all the phases of sharp practice which may be resorted to; suffice it to say that the ground is gone over so thoroughly that nothing more in that direction seems to be desired. Its manner of presentation is masterly in its way, and reflects great credit upon the author's ability to present a repulsive picture in an amusing light. We have experienced a rare pleasure in the perusal of the volume.

NASO-PHARYNGEAL CATARRH. By MARTIN F. COOMES, M.D. Louisville, Ky.: Bradley & Gilbert. 1880. 8vo, pp. 160.

OUR author states in his preface that at the request of numerous friends he reluctantly undertook to write a treatise on naso-pharyngeal catarrh, for the use of general practitioners. That he must have consented to do so in a weak moment is not only apparent by the character of the work but by the acknowledgment on his part that "the task" was of "uncertain value." He has probably, as he presumes, satisfied the demands of his friends, who, by the way, will very properly and generously appreciate his endeavors, but it is quite a different thing when he branches out to teach the general practitioner anything new in the treatment of a "class of diseases so commonly regarded as necessary evils supposed to be irremediable."

The work is very elementary in character, contains nothing original, and is carelessly written. Aside from this, the names of many of the authorities are misspelled and their views misinterpreted. These errors admit of no excuse from one who wishes to be considered as an expert, and as one competent to teach his less favored brethren.

The methods of treatment, both local and general, are those usually accepted by the mass of the profession, and the reader will receive no enlightenment as regards the curability of the disease save that the experience of the author in that particular is quite exceptionally good. There is a looseness of expression on his part concerning cures made with ordinary applications which is somewhat startling to the mass of unbelievers. As usual with this class of works the main illustrations are those of instruments, which at best are badly printed, and most of which are so well known that their omission could easily be overlooked.

TRANSACTIONS OF THE INDIANA STATE MEDICAL SOCIETY, 1880. Thirteenth Annual Session. Indianapolis: Carlon & Hollenbeck. 1880. 8vo, pp. 362.

NOT long since we noticed the proceedings of this Society in full in the RECORD, and the fact that a printed volume makes its appearance so soon afterward shows a promptness on the part of its Committee of Publication which is worthy of imitation. The volume, as a whole, presents a very creditable appearance, contains many papers of practical value, with an admirable shorthand report of the discussions. The president of the Society, Dr. J. R. Weist, of Richmond, Ind., leads off with a scholarly and comprehensive address upon the several problems in relation to the prevention of disease. His wide grasp of the subject, and his sound views upon the causes of disease and their prevention, deserve more than a passing notice. Unlike addresses of its kind, it is full of thought, and contains many practical suggestions bearing upon the subject of which it treats. The relation of pauperism, crime, and insanity to preventable disease, and the strange influences of heredity, are presented in a thoroughly practical manner, and must be read to be appreciated.

It may not be amiss, in this connection, to state that more than the usual number of papers were devoted to subjects pertaining to state medicine, and are, almost without exception, first-class productions. Among such of these as deserve especial mention are the articles by Drs. E. J. Van Vorhis, J. D. Gatch, J. W. Hervey, and T. M. Stevens. Dr. Commons contributes a suggestive paper on the use and abuse of ergot, and Dr. Haymond discourses pleasantly upon the always interesting topic of human longevity. With the exception of three or four more papers on general subjects, all the remainder were upon uterine topics. The obituaries are very tastefully enshrouded in black-margined pages, although there is somewhat of a sameness in their composition, and quite a remarkable uniformity in the appearance of a verse of poetry at the end of each.

The constitution and by-laws of the Society appear at the end of the volume, as usual, together with a list of the members of the different counties throughout the state. The volume is neatly published, and is of the average size of those which have appeared during the last three or four years.

FRACTURE OF THE PATELLA; a Study of One Hundred and Twenty seven Cases. By FRANK H. HAMILTON, A.M., M.D., LL.D., Surgeon to Bellevue Hospital, etc. New York: Chas. L. Bermingham & Co. 1880. 8vo, pp. 106.

PROF. HAMILTON, in the present brochure, has collected one hundred and twenty-seven cases of fracture of the patella, fifty-four of these having been under his special treatment. With characteristic care he has analyzed the points of interest in each case, and has summarized his conclusions in his usual impartial manner. As a contribution to the literature of the subject it is of rare value, as presenting the views of the highest authority on fractures in this or any other country. Some of the points which attracted our author's attention are worthy of consideration, as giving a fair idea of the causes, methods of treatment, and results of this interesting form of fracture. These points may be briefly summarized as follows: In a very large proportion of the cases the fracture was transverse, and was caused by muscular action. The frequency of early joint effusions was quite noticeable. There was great difficulty in securing and maintaining the fragments in apposition, necessitating frequent changes in the method of treating individual cases. Fibrous union was the rule. This result is stated in eighty-four of the cases, and but four or five admitted of no movement of the fragments upon each other. Re-fracture, or rather giving way of the bond of union, occurred in twenty-seven cases. Anchylosis existed for a longer or shorter period, but disappeared within a year or two after the injury. Knee-caps, as a rule, served no good purpose while the patients walked about. And lastly, our author calls attention to the remarkable power of restoration of the functions of the limb, after a time, if only the patient continues to use the limb, and thus develop the muscles.

The work is well published, and presents a very attractive appearance.

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THE PATHOLOGY OF HYDROPHOBIA.—At a meeting of the Philadelphia County Medical Society in June, Dr. Chas. K. Mills read a paper on hydrophobia, and gave some rather heterodox opinions as to its pathology. He denied (1st) that hydrophobia is due to a special morbid virus; (2d) that it is accompanied by specific changes in the blood; or (3d) that it has any absolutely characteristic lesions in the central nervous system. He regarded the origin of the chief symptoms in most cases as capable of being explained on the view of peripheral nerve-irritation set up originally in the wound, and transferred by reflex action to the medulla oblongata. Many cases called hydrophobic are also, he believes, examples of recognizable and demonstrable disease of an entirely different character. Some cases result from fear or imagination. Hydrophobia is a kind of tetanus.—*Philadelphia Med. Times.*

SANITARY CONDITION OF PRINCETON.—The Sanitary Committee appointed by the trustees of Princeton College to examine into the cause of the late sickness have reported that the sickness was due to bad drainage, but that this is now remedied, and the college is now in good sanitary condition.

Reports of Societies.

THE NEW YORK SURGICAL SOCIETY.

Stated Meeting, May 11, 1880.

DR. H. B. SANDS, PRESIDENT, IN THE CHAIR.

LIPOMA OF THE BACK—ABSORBABLE DRAINAGE-TUBE.

DR. FRED LANGE presented a patient, a middle-aged man, upon whom, three months ago, he operated for the removal of a moderate-sized lipoma situated in the scapular region, and applied a large antiseptic dressing, after having introduced Dr. Neuber's absorbable drainage-tube. The tube, however, had not been absorbed, but had been healed in, and the patient carried it about without inconvenience. The wound healed almost entirely by first intention. The small portion of the tube which was left protruding was separated from the portion that remained in the wound by absorption, and, as Dr. Lange believed, by the action of the granulations which rose from the edges of the wound at that place. He thought the reason why the remaining portion of the tube was not absorbed was because the patient, on the second day, made sufficient exertion to cause hemorrhage; and although not sufficient to necessitate removal of the dressing, when, a week afterward, the dressing was removed, it was noticeable that a small effusion of blood had occurred under the flaps. Neuber had reported cases in which absorption of the drainage-tube made of decalcified bone had been prevented by hemorrhage into the wound, and Dr. Lange thought that his case belonged to the same class. The blood does not act upon the tube in the same way as do the granulations. It seemed that the tube would gradually diminish in size, and after a time disappear entirely.

FRACTURE OF THE METACARPAL BONE OF THE THUMB —RESECTION.

Dr. Lange also presented a patient who, three months ago, was injured by a heavy piece of wood falling upon his right wrist. Fracture of the metacarpal bone of the thumb, near the carpo-metacarpal joint, was diagnosticated, and the case was treated accordingly; but there remained the pain and feeling of crepitation with every movement of the thumb, and the patient was unable to work. Dr. Lange then saw the case in consultation, thought that the fracture, perhaps, had extended into the joint, and proposed to open the joint and excise a portion of the bone if necessary. He found a small piece of bone that had been separated, and then united in an unfavorable position, so much so that a prominent ridge remained, bound by sharp edges, which continuously irritated the articular cartilage, and when removed it was found that the fracture had involved the articular surface, separating it into two parts. The wound made by the operation healed kindly, and the result was very good. The movements of the thumb were very good, and the patient suffered no pain except when direct pressure was made upon the parts. The operation was performed one month after the receipt of the injury.

DR. BRIDDON referred to a case in which he removed the entire metacarpal bone of the thumb on account of disease of the bone. The patient was a sailmaker, and recovered with the ability to handle his needle nearly unimpaired. Considerable new bone was formed.

Dr. A. C. Post then introduced the subject for the evening, namely:

CYSTOTOMY AND THE APPLICATION OF THE ACTUAL CAUTERY IN THE TREATMENT OF CYSTITIS.*

Dr. Briddon remarked that he had used the deep cautery in several cases of cystitis where either the obstruction had been removed or none existed, and with excellent effect. He had also used the superficial cautery in more moderate cases, and with moderately good effect. He had also seen cases which had not been benefited by the use of the actual cautery.

Dr. E. L. Keyes remarked that he had performed lateral cystotomy, in connection with Dr. Van Buren, for the relief of chronic cystitis in three cases. All of the patients had obtained a certain amount of relief, but he ascribed the relief in two of the cases not so much to the cystotomy as to the removal of median prostatic and outstanding overgrowths which formed an important feature of the operations. In the other case no relief was obtained except so long as the wound was kept open. One patient was a man, fifty-six years old, who had not passed his water without the aid of a catheter for four years. Phosphatic concretions were detected in the bladder at the end of this period, due to neglect of cleanliness of the bladder, and that was made the excuse for cutting, the main object being to relieve the patient of his median prostatic hypertrophy, which was readily recognized.

Phosphatic matter to the amount of a drachm and a half was removed, and a prominent third lobe twisted off and taken away. From that time the patient passed his water without a catheter; but he never ceased to have cystitis. Several years later he died from kidney complication.

In one case a pedunculated growth, which had acted as a ball-valve, suddenly arresting urination entirely, was twisted off during the operation of cystotomy, and the patient was very much relieved. He was in a moribund condition practically when the operation was performed, but is now living and quite comfortable. This patient would not use a catheter, because it hurt him, but injected his bladder through the urethra, by means of a fountain-syringe, with the greatest facility; yet there was about an ounce of residual urine, and therefore he did not get the full benefit of the washing. His chief relief came from the removal of the pedunculated growth.

A third case occurred in the person of a man æt. nineteen, who had a large kidney consisting largely of concentric layers of inspissated pus. The patient had red cheeks, was very fleshy, and apparently in full health. The bladder symptoms were reflex. This was a case of pure lateral cystotomy, nothing else being done, and the patient did very well for a while, the wound being kept open for about a month. As soon as the wound healed the old symptoms returned, and in about one year the patient died. The kidney was found as described. The bladder symptoms were unrelieved at the time of death.

Dr. Keyes remarked that he was familiar with three other cases, and in none of them was permanent relief obtained by lateral cystotomy. None of the patients died as an immediate result of the operation.

In the case in which the patient had the large kidney the wound was kept open with the finger for some time. In the other cases the wound was allowed to close promptly, and a certain amount of benefit followed the operation, because a pre-existing obstacle to urination had been removed. It seemed to him that the value of lateral cystotomy in cases of chronic cystitis was in proportion to the amount of rest given to the bladder at that time; but, if there be any cause for a continuance of vesical irritability, lateral cystotomy, as a directly curative procedure, was not valuable, excepting in so far as the element of rest was concerned.

Dr. Post asked Dr. Keyes if he practised divulsion after making the incision, and Dr. Keyes answered in the negative. Dr. Post then remarked that he attributed considerable importance to that step in his operation; because, as he stretched the parts, there was at once a considerably copious discharge of pus.

Dr. Erskine Mason referred to three cases of cystotomy in which he performed the operation for the relief of chronic cystitis as a *dernier ressort*. The first patient was fifty-six years of age, and had had urinary disease for twenty years; had a stricture that had been operated upon several times. The median portion of the prostate was enlarged and was removed, and the patient was greatly relieved by the operation. He died two months afterward, and post-mortem revealed cystic degeneration of the kidneys.

In the second case the patient was fifty-four years old, and died from uræmia.

The third patient was a mulatto, forty-nine years of age, who had quite a copious hemorrhage into the bladder three days after the operation. He died a few days afterward, from apparent uræmia, and at autopsy kidney disease was found.

Dr. Post remarked that there was one point in the history of his case which he omitted to mention, namely, that the patient for some time prior to the operation had been bedridden, but his recovery was so complete that by climbing over the wall he escaped from the hospital with out paying for his board, thus showing that he had attained a considerable degree of activity.

Dr. C. K. Briddon remarked that he had performed the operation twice, and both patients died shortly afterward while in coma, probably uræmic in character. He regarded divulsion as a bad feature in the operation. He thought that divulsing the neck of the bladder or prostatic portion of the urethra, in a patient with chronic cystitis, was likely to produce mischief.

Dr. Post remarked that the condition of his patient was improved immediately after the operation.

Dr. Post referred to a case in which he performed lithotomy on a patient who had pyelitis. Recovery from the lithotomy took place, and the patient was considerably relieved by the operation; but for a long time his urine contained pus that doubtless came from the pelvis of the kidney.

Dr. Robert F. Weir remarked that he had had occasion to study the literature of the subject recently, and had gathered nineteen cases, which, with the ten new cases just mentioned, made a total of twenty-nine, with eleven deaths, thus showing that the mortality is quite large. In some of the cases a departure from the lateral operation was made.

The first case was reported by Sir William Fergusson in 1850, who did the simple median operation, making the cut, as the report reads, so as to "divide the plexuses of nerves connected with the prostate," in order to relieve the man from the spasmodic condition.

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* This case has been published in a previous number of the Medical Record.

That was followed in order of time by Dr. Willard Parker's case, operated 1855, which was reported in a paper read before the Medical Society of the State of New York, in February, 1867.

In June of the same year McCraith, of Syria, did the median operation and then made a section of the prostate to a slight extent.

In October of the same year, Bickersteth, of Liverpool, published a paper in which he stated that for about ten years he had resorted to the lateral operation for the cure of cystitis, and that it had, as a rule, relieved his patients. His line of reasoning was similar to that presented by Dr. Parker.

Eve subsequently did the bilateral operation, and Teevan quite recently resorted to the median operation with success.

Bryant had reported six cases, with three deaths, and made the statement that when kidney trouble was recognized the operation should not be undertaken.

Howe had done one operation, opening the perineum in the median line, introducing the finger and dilating without cutting, with a successful result.

In Powell's case, which has been quoted by Gross, lateral section of the prostate was made, singularly, for extravasation of urine into the scrotum and perineum.

Little had done the operation several times, and the point to which he directed special attention was the difficulty in keeping the opening in the prostate patent.

Dr. Keyes asked if there was any case upon record in which lateral cystotomy, independent of any other means, had effected a cure?

Dr. Weir replied that McCraith spoke of his case as one of perfect recovery. It was not, however, one of pure lateral cystotomy. Bickersteth's was, and the cure was permanent. Several others existed, but in a large number the result was either negative or only a partial improvement.

Dr. Keyes remarked that, as a rational means of cure, there was no special reason why it should succeed unless aided by other measures.

Dr. Weir remarked that in the younger subject the operation seemed to afford more relief than in the older subject when the prostatic element existed. In cases in which a portion of the prostate has been removed the benefit has been most marked.

Dr. Post remarked that he had performed the operation once in a female, and all signs of inflammation disappeared. The fistula remained open for a long time.

Dr. Weir remarked that section and removal of the median portion of the prostate, first alluded to by Fergusson, had been performed several times by Bryant, who rather encouraged the intentional removal of this portion.

Dr. Mason remarked that Guthrie suggested the removal of the median portion many years ago. Mercier cut through it, and Guthrie removed it.

Dr. T. M. Markoe remarked that it seemed to him the median operation was not in any wise suitable for the purpose of giving the bladder rest, for one of the advantages claimed for it was that it did not prevent closure of the sphincter, and therefore could not give rest. He thought he should always prefer the lateral operation.

The President remarked that the median operation had been done with the insertion of a tube, for the purpose of securing rest.

Dr. Markoe remarked that the tube might partially accomplish it temporarily.

GANGRENE OF THE FOOT AND LEG.

Dr. C. K. Briddon referred to the case which he reported at the last stated meeting. (See Minutes for April 27, 1880.) He performed amputation at the knee-joint, making anterior and posterior flaps of the same length. The popliteal artery was pervious; the branches given off from it were markedly atheromatous. Gangrene followed, and destroyed about two inches of the anterior flap, the posterior flap remaining intact. Had he not made the posterior flap equal in length with the anterior, there would have been a scarcity of tissue; but, as it was, he thought there would be sufficient to make a good covering for the stump.

ACUTE PROSTATITIS FOLLOWING THE INTRODUCTION OF A SOUND.

The President reported a case which illustrated the liability to serious consequences from what are usually perfectly innocent operations upon the urinary apparatus.

Two years ago he was called in consultation to see a patient, about thirty-three years of age, who was suffering from inflammation of the right testicle. The inflammation was severe, and had occurred very suddenly after the introduction of a large-sized steel sound into the bladder. It was supposed that the patient was suffering from the consequences of ungratified sexual desire. He had no venereal disease, but was melancholic, and experienced various uneasy sensations in the deeper portion of the urethra.

The physician with whom Dr. Sands saw the case had been treating the patient by galvanization of the prostatic urethra. The accident did not immediately follow an application of electricity, but followed the introduction of a sound, not by the physician himself, but by the patient, who had acquired great skill in the use of the instrument. The attack was very severe. There was high fever, at one time delirium, some typhoid symptoms, as dry tongue, etc., and at the end of a week or ten days there was fluctuation beneath the skin of the scrotum, which was opened and vent given to the pus, and to Dr. Sands' surprise and disappointment the secreting tubes of the testicle protruded from the opening. Despite all efforts to the contrary, all the testicular substance escaped, and the tunica albuginea alone remained. The patient recovered his health, and eight months ago was married. He was quite well at the time of his marriage, and remained so during two of the three months spent on his wedding trip in Europe. Two months after his marriage his wife became ill with uterine trouble of such a nature as to forbid sexual intercourse, and with that enforced abstinence the husband's old troubles reappeared, the uneasy sensations in the deep urethra, etc. He was then treated by an eminent surgeon in Philadelphia for a so-called stricture of large calibre. The stricture was divided, with some relief, but this was only temporary. He returned to New York and placed himself under the care of a competent surgeon, with whom Dr. Sands saw him, and that surgeon treated him again with sounds. At that time there was no urethritis, no cystitis; indeed the symptoms were quite subjective. After the introduction of a large-sized sound the patient was seized with severe fever, had great desire to micturate, his urine was purulent, and he had all the signs of acute prostatitis, evidenced not only by the symptoms mentioned, but by a tumor readily felt in the rectum.

Dr. Sands saw him about two weeks ago, and at the time of the first visit he was able to detect an enlarged prostate, which was tender, and he suspected that it was about to undergo suppuration, if this had not already occurred. This view of the case was confirmed by the appearance, at intervals of two or three days, of large quantities of pus in the urine, forming a sediment, in an eight-ounce vial, about an inch in depth, and presenting very much the appearance of pus in the urine in cases of pyelitis.

Three days after his first visit, Dr. Sands saw the patient again, when there was a large swelling in the right buttock, similar in appearance to an ischiorectal abscess. It was deeply seated, covered an area about four inches in diameter, and could be felt through the rectum. It did not suppurate, but in the course of four or five days eleven additional deep-seated phlegmonous swellings appeared, and with the exception of this one all were situated upon the extremities; the first in the right calf, the second in the left calf, and others of lesser size in other localities. None of the swellings suppurated. But the most recent and the most interesting development was the appearance of a swelling, of the size and shape of a hen's egg, in the right side of the perineum, and occupying the scrotum to about one-half its extent. The swelling looked not unlike a hernia, and examination was made with a view to differential diagnosis upon that point. Dr. Sands saw this swelling for the first time May 10th, and was able to appreciate an indistinct sense of fluctuation. The attending surgeon introduced a hypodermic syringe and obtained pus. It was then proposed to open the swelling, and as Dr. Sands was endeavoring by pressure to make it tense and prominent, it became softer, and presently receded altogether, with the exception of a small, hard mass, about half as large as the last joint of the thumb, felt deep in the perineum and behind the spermatic cord. This disappearance of the swelling under pressure made both himself and the attending surgeon suspect that the abscess communicated with the bladder, into which its contents had probably escaped. The patient was accordingly directed to pass his urine, when it was observed that about a tablespoonful of clear water flowed first, and then about two ounces of clear pus, containing a small and recent blood-clot. That fact made it almost certain that the abscess had some connection with the bladder.

The case was interesting as showing how severe an accident might sometimes follow a simple surgical procedure, and interesting also anatomically with reference to the route by which the abscess had extended from the pelvic cavity to the perineum. Evidently the matter had not followed the course of the urethra, but had either ruptured, or more probably passed below the triangular ligament. He also asked what would be the effect of opening the swelling in the perineum if it communicates with the bladder. Could the urine escape and a urinary fistula be established, at least temporarily? All acute symptoms had subsided, and nothing was discovered through the rectum except a moderately enlarged prostate. There was always pus in the urine, but it was copious only about every second or third day.

Dr. Post remarked that it was an old surgical rule to give external discharge to collections of pus when it could be done. In this case he thought the occurrence of a fistula would be a minor evil as compared with results that might occur without drainage being effected.

Dr. Keyes remarked that he could not see why the abscess should not be opened, in order to prevent further complication. With an extensive external incision there was no reason why the internal orifice of the fistula might not close, and if it did not close readily the internal orifice might be found through the wound and the whole fistula, perhaps, freely opened into the bladder.

Dr. Weir remarked that if the pus could get into the bladder or urethra, the urine could also get into the cavity of the abscess, and hence the external opening would be inoperative.

He had seen a prostatic abscess discharge in the perineum, but had never noticed any such symptom as disappearance of the swelling under pressure, and in his case there was also wanting any marked swelling in the rectal examination.

He thought that the complication of swellings appearing at various points upon the body was only a milder form of the urinary complication described by Velpeau, and sometimes seen after the slighter as well as the severer operations.

Sometimes the swellings go on to suppuration.

It could be called a septicæmic process, although not always a fatal one.

Dr. Mason recalled a case of acute prostatitis following gonorrhœa, when a tumor made its appearance in the perineum. The prostate was much swollen and very tender, and the patient had a good deal of difficulty in urinating. The swelling was opened, and the wound closed without difficulty.

Dr. Weir was of the opinion that these fascial layers were not always so strong as commonly found to be on dissection, inasmuch as false passages, starting anterior to a stricture, would sometimes be followed by abscess posterior to the deep layer of the triangular ligament; and also that recently he had seen abscesses in the region set up by instrumental violence to the prostatic urethra opened well forward in the scrotum. In other words, dissection and experience proved that the resistance of these layers of fascia varied much in different individuals.

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A New Veterinary Journal.—*The Veterinary Gazette*, a monthly journal of practical veterinary medicine and surgery, has recently been sent to us. It is edited by Chas. A. Meyer, D.V.S., Jas. Hamill, D.V.S., and H. E. Earl, D.V.S. It is somewhat difficult to tell whether its appearance indicates veterinary progress so much as personal feeling. It professes to be independent, but aims its guns pretty regularly every month at the Columbia Veterinary College. This may be all right, however, and we venture no opinion, except that it does not appear independent, or in good taste, for a person who has just resigned his office to devote the immediate succeeding months to "pitching into" his former colleagues. The *Gazette* is well made up and contains much interesting matter aside from its polemics.

The Discovery of the Pulmonary Circulation.—M. Achille Chéreau read a paper before the Academy of Medicine in Paris, in which he showed that the true discoverer of the pulmonary circulation was not Michel Servetus, as is commonly supposed, but Colombo, of Cremona. Servetus published his book, in which he describes the pulmonary circulation, two years before Colombo's work appeared. But it is shown that Colombo had taught the pulmonary circulation for many years before the publication of his book. And Servetus was one of his pupils.

Correspondence.

ON THE RELATIONS OF NERVE AND MUSCLE.

To the Editor of The Medical Record.

Sir :—I think it no more than justice to myself that I should say a few words in answer to Dr. Poole, as he appeared in a letter entitled "A Reply," in the Record of August 7th. I am accused of not being to the point in my letter published on this subject. Of course I have no further acquaintance with the explanation which he advocates of the physiology of muscular action than I can get from reading his papers; and after reading his reply, I am obliged to say that his theory, which I had thought I comprehended, is now in my mind somewhat uncertain.

I am first taken to task in these words: "This omission shows how little pains he has taken to grasp the subject as I have presented it." In defence I must say that at the time of my writing, his explanation of the non-instantaneous muscular contraction after death had not yet appeared.

Your correspondent says: "I have never asserted or implied that relaxation is active and contraction passive." While I regret exceedingly having thus mistaken his meaning, I cannot yet see any particular stupidity in my thus understanding him. In the Record of May 1st he says: "Why should it be taken for granted that the ordinary or extraordinary exercise of muscular contractile power is dependent on a *stimulus* from the nervous system? . . . It will not do to accept such an opinion because the response of the muscle to the will seems to justify it." Now it is perfectly reasonable to suppose that if the muscles do not contract under the nerve-action, they must certainly relax. There must be nerve-action, else why the nervous system. In the very expression "nerve-action" there is an active condition indicated, and if this is not contraction, as is ordinarily thought, it must be relaxation, which would then be active. Again, a stimulus is "anything which excites the animal economy" (Dunglison), or, in other words, anything which produces action. If, then, contraction is not produced by a stimulus, it must be passive. Dr. Poole emphasizes the word "stimulus." This precludes for it any other source than the nervous system, and if contraction does not depend on a stimulus, it must depend on the only other possible thing, the withdrawal of a stimulus.

The information that "ligaturing a nerve-trunk arrests its power of conducting nerve-force" is not at all surprising; neither is it that the pressure of an intracranial tumor, or the rupture of a blood-vessel, will result in paralysis. I am informed also that "the cramps in the limbs of a parturient woman, knotting the muscles, are due to the arrest of nerve-force." The clear perception of the meaning of the term "paralysis" previously entertained, now becomes clouded. Before, the idea associated with it was complete muscular relaxation, the limb hanging helplessly, or, in case of a single group of muscles, distortion through the contraction of the opposing set which are no longer restrained.

But this is not the condition of things in the case of pressure by the fœtus. On the contrary, the muscles are painfully contracted. Are these two opposite conditions both to be considered paralysis? If we believe that there is an arrest of nerve-force, we must admit that they both are; then also we must consider tetanus, which has the same symptoms, to be paralysis. Yet how different from that resulting from compression of the brain, or the pressure of adventitious growths. Is it not at least reasonable to suppose that the ligation of a nerve-trunk, which results in paralysis, causes actual injury? Will the power of motion return on the removal of the ligature, or will the parts supplied remain helpless until the integrity of the nerve is restored, and above all, are the muscles painfully contracted?

The idea of spasms and convulsions (incorrectly, conditions) being caused by anything else than nerve-activity is ridiculed. If this is not the case, as good an authority as Erichsen has been deluded, since he says: "Tetanus is especially apt to occur in the feeble and debilitated, and indeed may be looked upon as a disease of debility, since any condition that lowers the tone of the nervous system is especially liable to occasion it" (page 575).

Dr. Poole speaks of me as being "unable to prove that in functional disturbances of a paralytic kind, or that amid atrophy, degeneration, and disintegration of nerve-tissue, there is a possibility of increased nerve-action." First, can he prove that this horrible state of things does ever exist, except in the imagination? The bare possibility of this might be suggested by Bryant ("Prac. of Surg," p. 185) in speaking of the pathology of tetanus. After speaking of structural changes which Dr. Poole asserts as existing, and which some have claimed to have found, he says: "Yet it is to be remembered that Billroth and other pathologists have failed to find these changes in the instances they have examined." In regard to the pathology of convulsions, Aitkin ("Sc. and Prac. of Med.," vol. ii., p. 316) says: "No characteristic or constant change can be detected in the nervous centres after death." The etiology of this abnormal condition is so diverse, that to ascribe to it a pathological histology would be as gratuitous as to endeavor to detect an encephalic lesion for pain. Attributable as it is to injuries of the head, to organic diseases of the brain and cord, to vascular disturbances of the brain, to the circulation of abnormal blood, to reflex irritation, as intestinal worms, digestive disorders, or even the prick of a pin, it must, with pyrexia and rigor, be regarded only as a symptom.

In view of the fact that spasms and convulsions are also treated with narcotics and sedatives quite as satisfactorily as with stimulants, I can imagine Dr. Poole being in the same predicament as he ascribes to me. Indeed, Bryant says that "stimulants must be used cautiously."

When I wrote my first letter, termed by Dr. Poole a "criticism" (though I did not intend it as such), I mistook his theory. If he supports the hypotheses of DuBois-Raymond, as set forth by Radcliffe, as I imagine he does, no discussion is necessary. They have not been accepted by the greatest physiologists, and the existence of "muscular currents" other than artificial, if not disproved, is rendered extremely doubtful. A very interesting consideration of this subject may be found in Foster's "Text-Book of Physiology," page 62 *et seq.* My sole object in writing this is to deny the accusation of superficiality which has been made, and place myself in the proper light before those who have taken any interest in the subject.

Respectfully,
W. C. McGiffert, A.B.

Hudson, N. Y., Aug. 12, 1880.

WHAT IS "MEDDLESOME MIDWIFERY?"

To the Editor of The Medical Record.

SIR:—It was Ramsbotham, I think, who first made use of the expression, "meddlesome midwifery is bad." He, no doubt, used it for the purpose of condemning any officious interference with natural labor. Normal labor is a physiological act, and nature, unassisted, is usually able to accomplish her purpose. The accoucheur has no more business to interfere with the uterus when it is discharging its function, than he has to interfere with the bladder or rectum when they are discharging their functions. It is his business—and his only business—when the labor is natural, to preserve a "masterly inactivity." To do anything under these circumstances, is to be meddlesome; and it was for the purpose of condemning the everlasting interference with nature, which is so common with some practitioners, that the distinguished author made use of the expression, "meddlesome midwifery is bad." It is clear, terse, and forcible, and has come to be a proverb in medical parlance. But, notwithstanding it is so plain, there are physicians who are so stupid as to have completely failed to understand its meaning. The flippant manner in which the phrase is misapplied, and in which it is dragged in on all possible occasions, has rendered it trite and unmeaning. At the meetings of our medical societies, no member can suggest any improvement in the obstetric art, but some one will rise and, with an expression that is childlike and bland, say, "Yes, that may be all very well, but you know that that distinguished practitioner and author, Mr. Ramsbotham has said 'meddlesome midwifery is bad.'" He will then sit down happy in the thought that he has utterly squelched the brother who had the temerity to intimate that under any circumstances nature could receive assistance from art. Not many years ago, I remember hearing a paper read at a county medical society by a young physician on the use of the obstetrical forceps. It was an excellent paper. In it the author dwelt upon the relief from suffering which its use was capable of giving to the parturient woman.

When he had finished, an old gentleman from the rural districts arose and in a very dignified and impressive manner stated that he had been practicing midwifery over thirty years; that he had delivered over three thousand women, and that he stated (as if it was something to be proud of) that he had never used the obstetrical forceps He did not tell how many of his patients had died undelivered, nor how often he had used the perforator, nor how many had suffered from vesico-vaginal fistula, nor how much unnecessary suffering both he and his patients had endured, which might have been saved by a judicious use of the forceps, but he did not fail to mention, before sitting down, that "an old and distinguished practitioner had said that 'meddlesome midwifery is bad.'" As he said this he fastened his eagle eye upon the young man who had read the paper, and the young man looked as if he had been sat down upon.

A few evenings since I had the honor to report to the Alleghany County Medical Society the history of a case of abortion at the fourth month. In this case there was profuse hemorrhage, and the placenta was retained. I, with a good deal of difficulty, succeeded in removing the placenta in the manner recommended by Dr. W. T. Lusk, of New York, when the hemorrhage was arrested and the case went on to a favorable issue.

I dwelt upon the importance of making persistent efforts to deliver the placenta in such cases. When I had finished I was not surprised when one of the members arose and in a cheerful, smiling manner, as if an original idea had just struck him, crushed me with this remark: "I do not approve of the practice, for you know 'meddlesome midwifery is bad.'"

This sentence seems to be as far as many ever get in the obstetrical art, and even this is not understood by them. I have observed that those who are most apt to condemn interference when it is really necessary are the very ones who are most officious in trivial matters. To meddle is to annoy, but it is never meddlesome to assist.

In a case of natural labor, it is meddlesome to require a woman to assume any position which is repulsive to her. It is meddlesome to introduce the finger into the rectum and endeavor to pull down the head. It is meddlesome to press upon the perineum and pull it either forward or backward. It is meddlesome to trouble a young girl having her first baby, by telling her when she should hold her breath and when she should bear down, and it is meddlesome to do many other things which are customary but are not only useless but annoying.

But it is not meddlesome to assist nature when she is unable to do her own work, nor is it meddlesome to set her right when she is wrong. Nor is it meddlesome midwifery to put a speedy end to a tedious case of labor with the forceps, nor to deliver with the hand a retained placenta in case of hemorrhage.

I hope I may be pardoned for dwelling so long upon this subject, but I have heard the expression "meddlesome midwifery is bad," so often misapplied, that I am heartily sick of it.

J. B. Murdoch, M.D.

Pittsburg, Pa., July 16, 1880.

SANITARY ADMINISTRATION AND EPIDEMIC DISEASE.

To the Editor of The Medical Record.

SIR:—It gives me great pleasure to remark the fact that my excellent friend, Dr. Reyburn, has done me the honor to read and to consider my recent paper on the above entitled subject. The good doctor seems to think that I am "hardly fair to sanitarians, for the great and ultimate object of all sanitary science is this very prevention and removal of the causes of disease." Precisely so. But when so-called sanitarians, through ignorance of the first principles of their science. undertake to combat disease with methods which will inevitably increase the aggregate of disease and suffering in the world, they need instruction.

As for the statement that disease being "a result of a want of proper correspondence between the habits and mode of life of the individual and his environment; hence it is not in consonance with the normal law of nature, but antagonistic to it," I must say that this does not correspond with my observation of the process of nature. When the habits and mode of life of an individual do not conform to the necessities of his environment, either the environment or the habits of the individual must be modified, or there will be perpetual conflict and discomfort, which may even rise to the altitude of disease. To a certain extent man has the power of modifying his environment, but the majority of physical forces will not yield to the will of man. He must either conform to them, or succumb to them. When this process of adaptation is hastily conducted, it usually produces a series of phenomena which we call disease—as when a child is brought in conflict with the poison of scarlet fever in his environment. The way of wisdom leads us to search out the nature of such hostile forces, and to either remove them or to learn how to adjust ourselves to their presence if they cannot be obviated. We have made considerable progress with certain of these forces, but many of them still elude our grasp. What we need to know more about is the *modus vivendi* in connection with diseases whose causes escape our control. Such a disease was small-pox, a disease which we have robbed of its terrors by domestication—by subjecting ourselves to its continual action and presence in the community. I am very well aware that this view of the subject appears novel to those who are not acquainted with the nature of the relations between variola and vaccinia, but it would not be generous to reproach any one for such lack of information, for it is only a few months since no less a person than Sir Thomas Watson was compelled to confess his life-long ignorance regarding this very matter. Dr. Reyburn's statement that by the passage of small-pox virus through the cow "a new disease is produced," is wholly at variance with the doctrines of natural science—is, in fact, a statement that no one could make who has reflected upon the subject of specific differences. Some time, when leisure returns to me, I shall endeavor to elucidate this interesting subject.

My friend asks if I "mean to say that the mortality from these diseases (scarlet fever, measles, etc.) was diminished by their spread in the community?" That is precisely the idea which observation impresses upon those who take a comprehensive survey of the subject. I cannot now take the time to illustrate the subject in any adequate manner. I will simply quote one example: When measles for the first time in the history of mankind invaded the Sandwich Islands, it destroyed one-tenth of the entire population. The people possessed no hereditary tolerance as a protection against the ravages of the disease and its sequelæ. The value of such protection was shown by the fact that during the same epidemic the children of American and European residents suffered no greater degree of mortality than is experienced during the regularly recurring epidemics of measles in our own country. Since that date the adjustment of the remnant of that population to measles has become so complete that now it occasions very little more than the average American mortality when it prevails in the Pacific.

I have no doubt that if our enthusiasts could succeed in stamping out measles and scarlet fever in our country for a few generations, our descendants would some day be more than decimated by an unexpected epidemic. Five million deaths from measles in these United States during the space of six months is what might now occur at any time if our population were not protected by that hereditary tolerance of the disease which grows out of its almost constant prevalence in the community. It is better to keep such an enemy in a state of domestication, rather than to banish him to the wilderness whence he may sally forth at any moment with overwhelming violence to ravage our households.

As for the remark that history shows, "by irrefragable proofs, that the vigor and length of life in modern times has increased, whilst many of the epidemic diseases, such as the plague, typhus fever, small-pox, etc., have almost disappeared from the world's history," it is difficult to refrain from a feeling of surprise that any one could fail to notice the bearing of natural selection upon these results so far as they are real. It is the long-continued weeding of our communities by disease that has contributed so largely to bring the human race to its present condition. A stern and unremitting process of natural selection, permitting only the survival of the fittest, is one of the principal causes of national vigor. Just as soon as this process is interfered with by the misguided efforts of ignorant man, deterioration of the species begins. In this connection it is suspiciously significant that during the past forty years of sanitary enthusiasm in England, the average duration of life in that country has not increased. Sanitarians, when confronted with this uncomplimentary fact, attempt to parry its force by asserting that if it had not been for them the standard duration would have been diminished instead of remaining stationary. For this claim there is no logical basis. Could they show that the duration of life had been steadily diminishing until the commencement of the last forty years' period, there might be some show of reason in their claim. But as I have not time now to discuss the value of natural selection as a means of elevating the human race, let me commend to the consideration of my friends the following eloquent passages from the writings of Herbert Spencer—a teacher whom the busybodies of our day would do well to consult before they undertake the work of giving advice regarding the management of the universe.

"Pervading all nature we may see at work a stern discipline, which is a little cruel that it may be very kind. . . . The development of the higher creation is a progress toward a form of being capable of a happiness undiminished by these drawbacks. It is in the human race that the consummation is to be accomplished. Civilization is the last stage of its accomplishment. And the ideal man is the man in whom all the conditions of that accomplishment are fulfilled. Meanwhile the well-being of existing humanity, and the unfolding of it into this ultimate perfection, are both secured by that same beneficent, though severe discipline, to which the animate creation at large is subject: a discipline which is pitiless in the working out of good: a felicity-pursuing law which never swerves for the avoidance of partial and temporary suffering. . . . It seems hard that an unskilfulness which, with all his efforts, he cannot overcome, should entail hunger upon the artisan. It seems hard that widows and orphans should be left to struggle for life or death. Nevertheless, when regarded not separately, but in connection with the interests of universal humanity, these harsh fatalities are seen to be full of the highest beneficence—the same beneficence which brings to early graves the children of diseased parents, and singles out the low-spirited, the intemperate, and the debilitated as the victims of an epidemic.

"There are many very amiable people—people over whom, in so far as their feelings are concerned, we may fitly rejoice—who have not the nerve to look this matter fairly in the face. Disabled as they are by their sympathies with present suffering, from duly regarding ultimate consequences, they pursue a course which is very injudicious, and in the end even cruel. . . . We must call those spurious philanthropists who, to prevent present misery, would entail greater misery upon future generations. . . . A sad population of imbeciles would our schemers fill the world with, could their plans last. A sorry kind of human constitution would they make for us—a constitution lacking the power to uphold itself, and requiring to be kept alive by superintendence from without—a constitution continually going wrong, and needing to be set right again—a constitution ever tending to self-destruction. Why, the whole effort of nature is to get rid of such, to clear the world of them, and make room for better. Nature demands that every being shall be self-sufficing. All that are not so nature is perpetually withdrawing by death. Intelligence sufficient to avoid danger, power enough to fulfil every condition, ability to cope with the necessities of existence—these are qualifications invariably insisted on. Mark how the diseased are dealt with. Consumptive patients, with lungs incompetent to perform the duties of lungs, people with assimilative organs that will not take up enough nutriment, people with defective hearts that break down under excitement of the circulation, people with any constitutional flaw preventing the due fulfilment of the conditions of life, are continually dying out, and leaving behind those fit for the climate, food, and habits to which they are born. Even the less imperfectly organized, who, under ordinary circumstances, can manage to live with comfort, are still the first to be carried off by epidemics; and only such as are robust enough to resist these—that is, only such as are tolerably well adapted to both the usual and incidental necessities of existence—remain. And thus is the race kept free from vitiation."

How refreshingly the healthy vigor of these utterances contrasts itself with the sickly sentimentalism that is just now so fashionable in certain circles—even within the ranks of our own profession!

Henry M. Lyman.

Chicago.

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Uterine Dyskinesia and the Treatment of Displacements.—Uterine dyskinesia is a new gynecological term, introduced by Dr. Graily Hewitt, and used to express the difficulty in walking that accompanies certain uterine diseases. In a report upon sixty-seven cases of uterine distortion or displacement coming under Dr. Hewitt's care, he noticed this symptom as occurring with remarkable frequency. Physical exertion induces a temporary exaggeration of the difficulty, hence exercise is given up and helpless invalidism is likely to ensue. Another point noticed in these cases, which, by the way, were of persons of the better class, was the frequent existence of starvation. Not enough food was taken, and the uterine tissues softened and lost their tonicity. In many cases, nausea was also a frequent symptom of the uterine displacement. This nausea sometimes led to the taking an insufficient quantity of food; the result was starvation; the starvation in these cases being secondary to the uterine disease.

The treatment employed was largely hygienic. In some starvation cases food was given every hour; sponge baths and friction to the skin were used. The postural method was largely followed. The patients were kept recumbent: in the dorsal position in the case of forward displacements; in the semiprone position in cases of backward displacements. In cases of forward displacement the cradle-pessary, in backward the Hodge pessary, was employed. The sound was used at intervals to aid in restoring the uterus to proper shape, when the organ was found hardened in its distorted shape. The treatment of the cases generally covered a long time, but eventually most of the patients were restored to health.

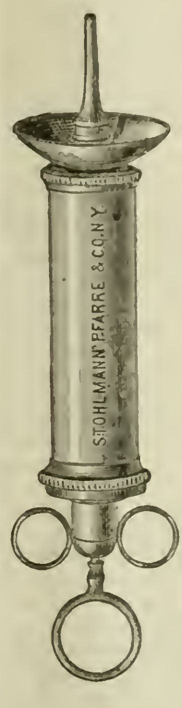
New Instruments.

A MODIFIED TIP AND PROTECTING FLANGE APPLIED TO THE EAR-SYRINGE.

By O. D. POMEROY, M.D.

The above modification has been constructed and used by me for a number of years with great satisfaction.

A few days since, in syringing an ear at the hospital, I found the tip of the syringe too short to reach far enough into the canal, besides being constructed with a swollen portion to prevent its going far enough into the ear to lacerate the membrane or canal. The aperture, also, was too large, preventing the production of a tense stream, the better to remove foreign substances from the ear. The return current also was inclined to spurt into the operator's face. I then used a syringe after the above model and succeeded at once in removing the obstruction.



The cut represents a syringe with a long slender nozzle, which may reach nearly or quite to the drum-membrane. The flange behind effectually catches any spurting of the return current, thus protecting the operator's face. The dimensions are as follows: length of the nozzle, five centimetres; diameter at the tip, two millimetres; at the opposite extremity, five millimetres; diameter of the perforation, one millimetre; diameter of the flange, five centimetres and three millimetres. Its concave surface presents toward the ear to be syringed. The whole is made of brass.

A good syringe should have the following advantages: 1. It should be worked with one hand. 2. It should have a nozzle long enough to reach the bottom of the drum-cavity. 3. Its aperture should be small enough to result in a stream of high tension, but with a good volume. The syringe represented is a brass syringe, suggested by the late Mr. Toynbee, and is of two ounces capacity. As this nozzle is so long and pointed it should not be put into the hands of the laity, for the drum-membrane could easily be punctured by unskilled manipulation. This instrument is made in the most admirable manner by Stohlman, Pfarre & Co., New York.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from August 22, 1880, *to August* 28, 1880.

White, C. B., Maj. and Surgeon. His sick leave of absence further extended three months on surgeon's certificate of disability, S. O. 181, A. G. O., August 25, 1880.

Ainsworth, F. C., Capt. and Asst. Surgeon. When relieved, to comply with S. O. 89, C. S., A. G. O., in his case. S. O. 100, Dept. of Arizona, August 10, 1880.

Skinner, J. O., Capt. and Asst. Surgeon. Assigned to duty at Whipple Barracks, A. T., relieving Asst. Surgeon Ainsworth. S. O. 100, C. S., Dept. of Arizona.

Comegys, E. T., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 181, C. S. A. G. O.

Powell, J. L., 1st Lieut. and Asst. Surgeon. Granted leave of absence for twenty days, permission to leave the Department, and apply for ten days' extension, provided he furnish an acceptable substitute, without expense to the U. S., during his absence. S. O. 157, Dept. of Texas, August 19, 1880.

Ebert, R. G., 1st Lieut. and Asst. Surgeon. Assigned to duty at Fort Walla Walla, W. T. S. O. 140, Dept. of the Columbia, August 16, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending August 28, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Aug. 21, 1880.	0	12	28	3	9	65	0	0
Aug. 28, 1880.	0	11	35	3	14	50	0	0

Habits and Treatment of Felidæ in Captivity. —Mr. Wm. A. Conklin, Director of the New York Central Park Zoölogical Gardens, writes a very interesting article on the above subject in the *Archives of Comparative Medicine and Surgery.* The food of the felidæ, he says, is either beef or horse-flesh. They are fed on week-days only, and fast on Sundays. The animals understand this perfectly, and on Sundays give no sign of expectation when the usual hour of feeding comes round. Occasionally some of the animals voluntarily abstain from food for as long as ten days, and do not appear to suffer. One of the difficulties to guard against is constipation. To prevent this, liver is fed to the animals once a week; when this proves ineffectual, castor oil is administered with their meat. All the felidæ are very fond of catnip, and, when it is placed in the cage, enjoy rolling in it.

The felidæ live in captivity from fifteen to sixteen years, showing signs of decay at about the age of twelve. The lion seems to breed more freely than any other species. The male will serve the female at least thirty times a day, as long as she is in season, which lasts generally ten or twelve days. The jaguar and leopard have been crossed, as also the tiger and lion. The period of gestation in the lion, tiger, and hyena is sixteen weeks; the number at birth is usually from two to four.

The cubs at the New York menagerie suffer chiefly from rickets, which affects them when about six or eight months old. As a remedy for this, phosphate of lime is used, with good results. In some cases cleft palate appears. The lions may be very prolific. In one case, a lion at the Dublin Zoölogical Gardens gave birth to fifty-four cubs, fifty of which she succeeded in raising.

An Arithmetical Phenomenon.—One of the last things done by the late Dr. Paul Broca was to present a most curious human specimen to the Anthropological Society of Paris. This was a lad aged eleven, a Piedmontese, named Jacques Duandi. He left his native place a short time ago, and, in company with a monkey, earned his livelihood by begging. When his appeals in the ordinary way were not attended to, he offered to solve mentally, in a few minutes, and without assistance of any kind, the most difficult problems in arithmetic. He was often put to the test; and, during his sojourn at Marseilles, a gentleman to whom he had appealed for charity was so astonished with the lad's gift of calculation, that he was induced to bring him to Paris as a curiosity. When M. Broca presented him to the Society, he gave him verbally a sum in multiplication composed of some trillions to be multiplied by billions. This he accomplished in less than ten minutes, mentally, and without any aid whatever, in the presence of the members, who were struck with astonishment. The lad is far from intelligent in other respects, and can neither read nor write. The most curious feature of his calculation is that he proceeds from left to right instead of from right to left. He is of the ordinary stature of his age, but his head is rather large and somewhat hydrocephalous in appearance. His forehead is high and developed to an extraordinary degree.

The case suggests that of an imbecile in a Pennsylvania asylum, recently reported, who had a most remarkable memory; without previous cultivation it was phenomenally greater than that of most men; while the other mental faculties were slightly developed. The talent for music and mimicry possessed by "Blind Tom" are, as is well known, associated with a very low order of intelligence. A collection and study of cases of this kind, which are not so extremely rare, would be of much interest to psychology.

Yellow Fever in Havana.—During the month of July there were 282 deaths from yellow fever in Havana. The total number of deaths was 1,017 in a population of 195,437.

A Supposed Case of Yellow Fever was discovered in Bellevue Hospital on the 14th ult. The patient was a man from Galveston who died two days after admission to the hospital, with symptoms pointing to yellow fever. The autopsy did not settle the question, but the wards were fumigated as though the case were a genuine one, and the death certificate read "collapse from supposed yellow fever."

Meetings of Scientific Associations.—The American Association for the Advancement of Science, held its annual meeting at Boston during the week beginning August 25th. The meeting was an unusually large one. A subsection on biology was established. Many papers were read before this and other sections, of much interest to physicians.

The British and the French Associations for the Advancement of Science were in session at the same time with the American. The British Association met at Swansea, the French at Rheims.

The British Medical Association finished its four days' meeting August 13th, and was, says the *British Medical Journal*, an unqualified success. Full reports of these meetings will be given later.

U. S. Marine Hospital Service.—Under the direction of the Treasury Department, Hon. John Sherman, Secretary of the Treasury; Surgeon-General, Dr. John B. Hamilton; Medical Purveyor, Oscar Oldberg, Ph.D.

TABLE OF PRINCIPAL STATIONS, ALPHABETICALLY ARRANGED.

Port.	Location of Hospital.	Name of Officer in Charge.
Baltimore	† City Hosp.	Asst. Surg. C. B. Goldsborough.
Boston	* Chelsea	Surgeon John Vansant.
Buffalo	† City Hosp.	Asst. Surgeon H. P. Cooke.
Cairo	† St. Mary's	Asst. Surgeon H. R. Carter.
Charleston	† City Hosp.	Asst. Surgeon F. Irwin.
Chicago	* Lake View	Surgeon T. W. Miller.
Cincinnati	†	Surgeon Walter Wyman.
Detroit	*	Surgeon W. H. Hutton.
Galveston	† St. Mary's	Pass. Asst. Surgeon H. Smith.
Georgetown, D. C.	† Providence	Pass. Asst. Surg. J. C. Fisher.
Key West	*	Asst. Surg. W. C. W. Glazier.
Louisville	*	Surgeon W. H. Long.
Mobile	*	Asst. Surgeon Godfrey.
New York	* Bedloe's Island	Surgeon C. S. D. Fessenden.
New Orleans	† Hôtel Dieu	Surgeon W. H. Austin.
Norfolk	† St. Mary's	Surgeon R. D. Murray.
Pensacola	† Private Hosp.	Act. Asst. Surg. F. N. Blount.
Philadelphia	† Jefferson Coll. H.	Pass. Asst. Surg. G. W. Stoner.
Portland, Me.	*	Surgeon E. J. Doering.
Port Townsend	* Private Hosp.	P. Asst. Surg. J. M. Gassaway.
San Francisco	* Mountain Lake	Surgeon E. Hebersmith.
St. Louis	* So. St. Louis	Surgeon H. W. Sawtelle.
Savannah	† St. Joseph's	Act. Asst. Surg. G. H. Stone.
Vineyard Haven	* Duke's Island	Act. Asst. Surg. W. D. Stewart.

* U. S. Marine hospitals. † Contract hospitals.

The Service has recently issued a circular showing more minutely than does the above table the various ports at which treatment is given to seamen, and what grade of medical officer furnishes it. From this we learn that the number of medical stations is 72. At these relief is given by regular medical officers in 24; by acting assistant surgeons in 30; and by contract surgeons in 18.

Passed Assistant Surgeon James W. Gassaway, of the Marine Hospital Service, has been relieved from duty at Port Townsend, W. T., and ordered to report for duty to Surgeon Fessenden, New York harbor. Assistant Surgeon Frank W. Mead has been ordered to take charge of the hospital at Port Townsend.

The new steamer, John M. Woodworth, which is to ply between the Battery and the Marine Hospital on Bedloe's Island, has arrived in port. It is a beautiful boat, sixty feet long, and modelled somewhat after the revenue cutters. It contains rooms for the officers, berths for sick patients, and every appliance necessary for prompt attendance on the sick. The steamer will act as a steam ambulance when necessary, and will take sick or injured seamen from the vessels as they come in.

Professor W. T. Wythe, M.D., died at his residence in California, June 26th, aged 33. He had for several years occupied the Chair of Anatomy in the Medical College of the Pacific Coast, and was much esteemed by his fellow-physicians.

Lord Shaftesbury at the Medico-Psychological Association.—The annual meeting of this association was held on July 30th, at the Royal College of Physicians, under the presidency of Mr. Mould, of Cheadle. There was a very full attendance of members from all parts of the United Kingdom. At the morning sitting a hearty vote of thanks was accorded to Dr. Tush, the retiring president, and the usual routine business was transacted. In the afternoon, the President read a carefully prepared and exhaustive address, introducing, among other topics for discussion, the question of providing detached cottage and villa residences for lunatics apart from the asylum proper; and Dr. Boyd read a paper upon the simplification of admission formalities.

The members dined together in the evening at Willis' Rooms, when they were joined by the Earl of Shaftesbury, Mr. J. T. Hibbert, M. P., and other distinguished guests. Lord Shaftesbury's health having been enthusiastically drunk, his lordship, in feeling terms, expressed the great pleasure which it gave him to meet a body of medical and scientific gentlemen of whose services he could speak with the greatest gratitude. Referring to the length of time during which he had been connected with lunacy work, he favorably contrasted the present state of things, both in public and private asylums, with that existing in former years, and alluded to the conscientious manner in which medical practitioners had discharged the duties imposed upon them by the Lunacy Acts, as proved by the evidence adduced before the Parliamentary Committee, which showed that 185,000 certificates had been issued to persons shut up upon those certificates, and though the committee sat for six months, yet they did not discover a single instance in which the patients had been shut up without good and sufficient reason. The present tendency (one to be guarded against in the public interest) was to let out everybody who was shut up, and henceforward to shut up nobody at all. It was to be hoped that, when measures of lunacy reform were decided upon, nothing would be done which would throw unnecessary impediments in the way of early treatment by a mistaken delicacy in regard to the "liberty of the subject." The two great principles to be maintained were a thoroughly efficient, permanent, and independent body of visitors, and every facility, under proper control, for early treatment. The toast of the House of Commons was responded to by Mr. Hibbert, M.P.

Inanition at Bellevue Hospital.—The house staff at Bellevue Hospital have made a complaint that their food is of such wretched quality and so badly cooked that it is impossible to live on the hospital fare alone. The young gentlemen have unfolded their troubles to the sympathetic ear of a *Tribune* reporter. Their meats were old and dry and fibrous; they eventuated uniformly into stews and hash, which depressed the appetite and paralyzed digestion. As a result of the diet thus forced upon the staff, about half of the number are worn out and nearly sick when they finally leave the hospital. Such fare is not offered in the other city hospitals; but a position at Bellevue is such a prize that the Commissioners do not feel inclined to remedy the trifle of an insufficient diet.

The house staff chose a poor time for their appeal to public sympathy. Dr. Tanner has created so wide an impression of the sufficiency of air and water, that few of the starving can get any sympathy until the forty-first day. Nevertheless, the young men at Bellevue work hard and faithfully, and they are entitled to receive something more than the cuisine of a third-rate boarding house.

The Night Medical Service in this city is now in full working order. The number of precincts in the city is thirty-five. The number of physicians who have been registered for duty on the night medical service is 329. This represents all the applicants for registration with one exception. The exception is that of a physician who was implicated in a recent criminal prosecution.

Original Lectures.

ON SOME POINTS IN THE MANAGEMENT OF

ASTHENOPIC SYMPTOMS IN EMMETROPIC AND AMETROPIC EYES.

A Lecture Delivered at the Manhattan Eye and Ear Hospital,

By O. D. POMEROY, M.D.

Lecture II.

(Reported for The Medical Record.)

Gentlemen :—The first topic this evening is hypermetropia. This is a condition of the eye which arises, probably, from arrest of development of the eyeball in which the antero-posterior diameter is too short. The lens and the cornea represent about the same refraction as that of the emmetropic eye. The eyeball being too short, it necessarily has insufficient refractive power. We have already learned that the emmetropic eye is in a state of absolute repose at the far point; that is, objects seen at a distance are accurately focussed upon the fovea centralis without the aid of muscular contraction. Light falling upon the emmetropic eye of a dead man, according to this theory, would reach an exact focus upon the fovea. That statement requires some modification. In a large majority of children, the eye, under atropine, will be found to be hypermetropic unless it is myopic. This is much more often the case than with adults. I have examined the eyes in quite a large number of adults under atropine, and have found that not more than five per cent. emerge from its influence without having been found to be hypermetropic or myopic. For producing this effect you may use a four-grain solution, and instil a few drops into the eye three times a day, for from one to three weeks, and thus put the muscle of accommodation into a state of absolute repose. In explanation of this fact of generally finding a lower refraction after atropia, I am inclined to offer the theory advanced by Donders, namely, that a certain allowance must be made for a species of normal tonicity of the ciliary muscle. He says from $\frac{1}{60}$ to $\frac{1}{40}$; that is, if the ciliary muscle is in a state of absolute repose, the eye would require a convex lens of from $\frac{1}{60}$ to $\frac{1}{40}$ to bring the rays of light to a focus upon the fovea. I would define hypermetropia, practically speaking, to be a condition of the eye in which refraction is lowered more than from $\frac{1}{60}$ to $\frac{1}{40}$ with the ciliary muscle in repose, by atropine or otherwise. The range of accommodation in the hypermetropic eye is frequently more than in the emmetropic eye, which will be an important element in our studies relating to the action of lenses in aiding vision in this class of cases. The hypermetropic patient has been so necessitated to intensify the action of the ciliary muscle to overcome the hypermetropia that he has gymnastically increased the power of the muscle. Likewise the power of the interni has been increased in a similar manner, which will account for the existence of convergent squint in some hypermetropic eyes; that is, the interni, by constant effort to equal the innervation of the ciliary muscle, become hypertrophied to such a degree that their opponents, the externi, are incapable of maintaining the eyeball in the proper position for binocular single vision, and the consequence is convergent strabismus in one or both eyes.

As to the use of glasses in hypermetropia. We started with the proposition, in speaking of emmetropia, that to read comfortably for any given length of time, at the usual distance, the patient would be required to call forth a little less than one-half the range of accommodation. The hypermetropic eye frequently having a greater than normal range of accommodation, can, on account of that, often work without glasses with perfect comfort. For instance, the range of accommodation may be $\frac{1}{3}$; if we divide that by two, we have $\frac{1}{6}$, which is more than needed. Then if he has a hypermetropia of $\frac{1}{12}$ to $\frac{1}{18}$, the reading distance will be removed to the proper point—namely—thirteen or fourteen inches. Moreover, in the management of hypermetropia we meet with precisely the same question that confronted us when studying the management of emmetropia—namely—ciliary muscles differing greatly in contractile power. By the rule already laid down, to use one-half of the range of accommodation, you can see that some cases would require glasses and others would not.

The management of manifest hypermetropia in very young subjects. I will speak of this separately. A very large proportion of young people have, as we previously stated, a certain amount of hypermetropia. Frequently it is facultative; that is, they will see just as well without convex glasses as with. It comes to be a question whether you will correct their ametropia or not. If there are no asthenopic symptoms, do not use glasses; if there are, use them. But you will frequently find, after the ciliary muscle becomes rested on account of the use of the spectacles, that the glasses will be thrown off as something not to be longer tolerated. I have in mind a case: a young man, sixteen years old, had manifest hypermetropia of $\frac{1}{40}$ and asthenopic symptoms. I prescribed $\frac{1}{40}$, and he wore the glasses a year with comfort; they began then to worry the eyes and he found that he worked better without than with them, and I therefore told him to discard them. He did so, and ever since has worked comfortably without the aid of glasses.

In a patient of middle age, I should, as a rule, neutralize all the manifest hypermetropia, and let him wear glasses for distance, unless he found, after awhile, that he was just as comfortable without glasses as with them. But if he previously had asthenopic symptoms, he probably would bear to use the glasses constantly.

At the near point he may use glasses which nearly equal or even exceed the total hypermetropia, and the glasses can be determined by the rules which we adopted in fitting glasses for presbyopia—namely, take the lens which corrects the manifest hypermetropia, and see what the range of accommodation is; if it be less than $\frac{1}{8}$, find by the plan previously stated what glass will bring the near point up to eight inches; this, added to his hypermetropic correction, will give the proper reading glasses.

CONVERGENT SQUINT AND HYPERMETROPIA.

I will say a few words regarding the management of convergent squint in hypermetropia. A good deal has been attempted in relieving convergent squint without tenotomy, especially if it is what is called periodic squint, the earlier manifestation of strabismus. It is a fact that many young patients who occasionally squint may have convex glasses adjusted to their eyes which will relieve the tension of the interni so completely as to cause them to use their muscles so moderately as not to give rise to a squint at all. But that plan has not succeeded as well as was anticipated. I have coming to the clinic a patient in whom I had corrected the convergent squint by a tenotomy. Afterward the squint returned. The eyes now are perfectly straight while he wears glasses, but if he leaves them off even for a few minutes the squint returns.

GLASSES AFTER TENOTOMY FOR CONVERGENT SQUINT.

As to the strength of glasses to be used after tenotomy, I do not always use correcting lenses after tenotomy for convergent squint, even in hypermetropia. If there is a considerable degree of hypermetropia I always do. In young children, who are very prone to relapses after tenotomy, I always use a correcting lens, *provided* I find a considerable degree of hypermetropia. That is usually satisfactorily found by the ophthalmoscope only. I am in the habit of making a diagnosis of all the hypermetropia which may be developed by the ophthalmoscopic examination, and fitting the patient with glasses thus found. I direct them to be worn for a longer or shorter period of time. A case will illustrate this point. A child four years of age was operated upon by me for convergent squint. The eyes became straight, but relapses occurred several times. I caused her to wear glasses which neutralized all the hypermetropia diagnosticable by the ophthalmoscope. As long as she wore the glasses her eyes were straight; but leaving them off for a few hours only, the squint would return. I directed that glasses be worn constantly, but to leave them off when it could be done without causing a return of the squint. After three or four months the parents came with the joyful intelligence that the child was able to discard the glasses without provoking a return of the squint. Up to the present time the eyes remain straight. Even if you overcorrect the hypermetropia in little children, I do not know as it does any special harm. I do not now recall a case in which pain, lachrymation, or appreciable discomfort has resulted from wearing glasses which were too strong to correct the hypermetropia. The worst they can do is to induce an artificial myopia.

ATROPINE IN CONVERGENT SQUINT IN THE HYPERMETROPIC EYE.

Atropine has been used to correct the convergent squint of hypermetropia. I think Dr. John Green, of St. Louis, kept the eyes of a patient under the influence of atropine for from one to two years, with the view of curing the squint. So long as he used the atropine the squint was relieved. In some cases, however, this good result was not obtained. After the patients recovered from the atropine the squint commonly returned; so I believe he has abandoned the device of curing the strabismus in this manner. I do not by any means find that atropine will prevent even periodic squint, except very infrequently. Theoretically it may do so, because it relieves the interni from the extra tension which develops the squint.

THE VISION OF HYPERMETROPES.

If the patient has a high degree of hypermetropia, you must not expect to bring vision entirely up to the normal $\frac{20}{20}+$. I have previously hinted at the fact that the hypermetropic eye exhibits signs of arrest of development, and functionally it will often be found faulty. I think these persons have a smaller optic nerve and a less development of the retina than exists in the normal eye. I have often fancied that the visual field was a little limited in high degrees of hypermetropia.

ASTIGMATISM IN HYPERMETROPIA.

In managing the astigmatic symptoms of hypermetropia, a little skill is required. I think I generally find the astigmatism about the same before the use of atropia as after. Sometimes it may be somewhat increased, but the amount of astigmatism, certainly in adults, which is revealed by trial glasses, before atropia, is a fair guide to go by. You have frequently heard it said that such a patient has too small an amount of astigmatism to be worthy of correction. This is frequently the case in hypermetropes, but not often in myopes. Here we follow the law already stated, namely, if we have a vigorous ciliary muscle it may overcome slight degrees of astigmatism without trouble. I will state a case. A gentleman, 46 or 47 years of age, had a small amount of astigmatism ($+\frac{1}{60}$), which was diagnosticated at that time. He asked for glasses on account of moderate presbyopic symptoms. I told him that his right eye was slightly astigmatic, but that I thought it would not give him any trouble, and advised him not to go to the extra expense of a cylindrical glass. He went away, used the glasses prescribed for about a year, and then returned, saying that his right eye had pained him somewhat, and that it watered. In other words, it began to show asthenopic symptoms. I then saw that it was necessary to correct the hypermetropic astigmatism, and he has had no asthenopic symptoms since. You will conclude by this that at the beginning it may be a kind of experiment as to whether or not you will give the patient a glass that will correct the hypermetropia. Of course, with only a moderate degree of hypermetropia and a strong ciliary muscle, he would prefer to avoid glasses.

Some years ago, by the advice of a distinguished gentleman in Berlin, I purchased a set of cylindrical lenses ranging as high as $\frac{1}{40}$. But since that time it has been found that this number is much too strong for some cases, especially for myopes; and even in hypermetropia we find occasion to use a cylindrical lens as weak as $\frac{1}{60}$. Some go much finer than that, but I can hardly see any proper indication for so doing. Insufficiency of the interni in hypermetropia may be managed precisely as in emmetropia.

MYOPIA.

In myopia there exists a condition exactly the opposite to hypermetropia; that is, the eye-ball is too long instead of too short. It is more than that. It is frequently, indeed almost always, a more or less diseased eye. The length of the eyeball is due to an ectasia or bulging of its posterior portion. This may be a thimble-shaped projection located in the region of the fovea; it may reach the border of the disk, or any other portion of it, or the whole may be included. It may extend even to the equator of the eyeball. You will perceive by this why we are so uncertain in our diagnosis of the refraction of a myopic eye by the ophthalmoscope. It is extremely difficult, if not impossible, to diagnosticate exactly the refraction of the fovea centralis without the aid of blood-vessels, which are not found in this region, and the best I can suggest is to observe the refraction as near the macula as vessels are found. This refraction may be a little more, perhaps a little less than that determined by the trial-glasses.

The cause of the bulging of the eye in myopia is a disease which Graefe called sclerotico-choroiditis posterior, and is almost always accompanied by posterior staphyloma. It produces changes in the choroid resulting in atrophic patches here and there, stretches the retinal tissue, sometimes causing detachment, and induces quite a variety of retinal disturbances. So in a large number of cases of high degrees of myopia you will find that amblyopia enters largely into the problem of the selection of glasses. In consequence of this bulging of the eyeball, it presses rather heavily upon the fatty connective-tissue cushion at the posterior part of the orbit, and hinders mobility of the eyeball in a purely mechanical manner. In consequence of this the ocular muscles, notably the interni, will be found quite insufficient to proper mobility of the eye.

Insufficiency of the interni is quite characteristic of myopic eyes, and it sometimes exists to the extent of causing divergent squint. In hypermetropia, you remember, we occasionally have convergent squint. This is an element which requires careful consideration when glasses are adjusted.

WHAT GLASSES SHOULD BE GIVEN TO A MYOPE?

It has been laid down as a rule in many of the books, including Donder's, that if the range of accommodation in the myopic eye is normal, you can give the patient glasses for distance that neutralize the myopia, and which may be worn for constant use. This rule, very frequently, is not to be relied on. I can explain the fact only by referring to two theories.

The ciliary muscle in myopia is frequently quite weak. In general terms you will find that a myopic eye works much more comfortably with the accommodation considerably relaxed.

Again, in myopia, we have to deal with what is extremely troublesome; that is, any disturbance of the relative accommodation. Take, for instance, a myopia of one-sixth; the patient will read with the far point at about six inches; his accommodation will be almost completely relaxed, but the interni represent a convergence of six inches. He may have done this so long that he will do it with comparative comfort. You can readily see that this is an artificial condition, due simply to a long-continued habit, and it is extremely difficult to cause the patient to use his eyes under different conditions. Now correct the myopia and then notice the change. At the *far* point he will see objects with relaxed accommodation, and instead of the interni converging at a point six inches distant, the parallelism of the eyes must be retained, which necessitates a prodigious tension of the externi, and thus gives very great discomfort. To avoid this complication of changed relative accommodation, we select glasses for distance which do not wholly neutralize the myopia. I have already stated that in myopia you must attend to the condition of amblyopia.

Do not forget for a moment that the myopic eye is often better able to read fine print for a longer time than even the emmetropic eye, because it has, from the mere fact of its myopia, a *magnifier* before its eye, and the interni are so well accustomed to this condition that they give little or no trouble, even in excessive convergence.

When I tell you to allow the patient to have a glass that neutralizes the myopia, to wear constantly for all kinds of work, he should find it comfortable; if not he must lay it aside. In any event you may neutralize all the myopia with a glass which is occasionally used for distant objects only. Now, for glasses which he can wear constantly with some comfort, I should say select those which will cover points from six to ten feet distance. They will enable distant objects to come out to a reasonable degree of clearness, and will not strain the muscle of accommodation unduly in looking for a few moments at near objects. What shall we do for reading glasses? If the myopia is from one-eighth upward I should not give reading glasses at all. *Some* patients with myopia one-sixth read better without than with glasses. But if you have concluded to give glasses for reading it will be for the higher grades of myopia; give those which only remove the myopic far-point a little distance away. A high degree of myopia should not have the reading distance pushed beyond from seven to ten inches. But the element of empiricism comes in here very strongly.

On the subject of high degrees of myopia and ability to do good work without glasses, I would cite a case of this kind. In myopia, vision in one eye is sometimes very poor, or one eye may be much more myopic than the other. The myope will by preference, then, use the best eye. While riding in a street car some time since, with a professional gentleman and his wife, we noticed a man opposite us who was reading a newspaper held not more than two or three inches from the eyes. I remarked that he was reading with only one eye, and the doctor's wife being rather incredulous upon that point, took the pains to make the necessary observation, when she found, sure enough, that the man had one eye widely deviating from the object, while the other was fixed upon it. These patients will frequently do that, especially if they have a high degree of amblyopia. You will remember that I told you watchmakers could work with a single two-inch lens without fatigue for many years; the interni, of course, not being engaged, the proper amount of accommodation is readily adjusted.

In myopia or hypermetropia, if the eyes have different degrees of refraction, I would follow this rule: if the difference between the two eyes is more than $\frac{1}{20}$, I would fit the best eye; that is, the eye which has the least myopia or hypermetropia, and the best vision, giving the same glass for the other eye. If the difference is less than $\frac{1}{20}$, I should fit each eye separately. Considerable trouble will be required on the part of the patient to adjust for comfortable vision even here. You have two eyes requiring quite dissimilar glasses; you have two retinal images differing from each other in size, and these have to be fused into one image by a mental process. In myopia, select the weakest glass that will correct properly, otherwise the accommodation becomes unduly intensified.

Several years since I fitted a patient with glasses for myopia and astigmatism. Having no minus glasses weaker than $\frac{1}{40}$ at that time, I used that, and it seemed to correct the error well enough. He used the glass something like a year, and then came back, saying that his eye began to pain him. Since the first fitting of the glasses, I had had made for stereopticon purposes a set of cylindrical lenses running up to $\frac{1}{96}$. Looking his case over carefully, I found that $\frac{1}{96}$ cylindrical corrected his myopic astigmatism perfectly, and all the asthenopic symptoms promptly disappeared.

Insufficiency of the interni in myopia is extremely important, because it frequently develops into divergent squint, as well as produces asthenopic symptoms. If a squint is present, you may operate, and usually in divergent squint the interni must be advanced either one or both. But if the insufficiency is moderate, say 10° to 15°, you may correct that by prisms with the bases placed inwards. In selecting the prism you will be guided by the rule already laid down, and that is, use about one-half the prismatic power which represents the insufficiency at the far point and distributed equally between each eye.

Some ten years ago, as near as I can recollect, Pagenstecher, of Wiesbaden, and others, practised division of the external rectus muscle to relieve the asthenopic symptoms resulting from insufficiency of the interni. I have done the operation in only two cases, both moderate degrees of myopia and noticeable insufficiency of the interni, not sufficient, however, to spoil binocular single vision, and in each case I relieved the asthenopic symptoms, but I had the same experience many others have had—namely—whenever the patients looked far in the direction of the divided muscle, they had a certain amount of diplopia. In my cases this did not produce serious discomfort, but with this possibility in view, and on account of the large experience of others, which condemns the operation, I have abandoned it.

Another means of relieving the fatigue and ciliary neuralgia of myopic eyes is atropine. For this purpose a four-grain solution may be used three times a day, or sufficient to put the ciliary muscle completely at rest. Of course smoke or blue glasses may be used while this is being done.

A myopic patient should not bend over his work. He should do nothing to cause blood to go in abnormal quantities to the region of the eye. Again it may be used as an argument in favor of the use of glasses, that the patient can then hold his head erect and thus prevent the congestion of the eyeball that is likely to increase the previously existing disease, consequent on bending over his work. Dyer's plan is applicable here as in hypermetropia.

In myopia you may use a very weak concave glass to slightly change the relative accommodation.

Sometimes you will be extremely annoyed to find that the myopic eye refuses every form of spectacles. I would explain that fact upon the theory that the patient, for some reason not understood, cannot bear to have his relative accommodation changed; not even by the use of prisms which would retain, in a measure, the same condition of relative accommodation that previously existed.

From what has been said you will conclude that the matter which we have been studying is not one of exact science; that is, we are obliged, as yet, to partially recognize the empirical element. That glass which is worn comfortably by the patient, and relieves his asthenopic symptoms, is, evidently, the proper glass for him to wear.

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Help for Red Noses.—When alcohol, or the force of circumstances, has brought to a man a red nose, it has generally been considered irremediable. He tries, perhaps, a few bran poultices, and then abandons himself to the inevitable rubescence. Mr. Malcolm Morris reports (*Brit. Med. Journ.*) considerable success with acne rosacea, when thus affecting the nose, through the use of linear scarifications. He had tried this method in the way recommended by Mr. Squire as a remedy for port-wine mark, but failed of doing any good. Applying it to other conditions, however, he had much better success. His plan is to scarify the affected part in parallel lines, allowing some blood to flow. He repeats the operation from ten to twelve times.

A CLINICAL LECTURE ON TETANUS.

By JOHN A. OETERLONG, A.M., M.D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE IN THE KENTUCKY SCHOOL OF MEDICINE.

(Reported by A. H. Kelch, M.D.)

M. M——, German, married; stone mason; was injured two weeks since on the left leg, receiving a trifling bruise that merely scraped off the skin, and which is now entirely healed, with a slight degree of pigmentation. Five days since he first noticed some stiffness of the jaw; he then began to suffer with severe pain in the breast, about the inferior extremity of the sternum, shooting directly through to the back. Then followed difficulty of swallowing, which has since increased; dyspnœa and stiffness of the lower extremities.

Patient somewhat above the medium; well nourished. Previous to present illness healthy and strong. Pulse, 72; temperature, 99. He is somewhat stupid and drowsy from chloral and bromide of potassium, which have been freely used; pupils normal; he occasionally spits blood, mixed with tenacious saliva; jaws rigid; body and extremities extended and rigid.

According to the statement of the house physician, Dr. Hayes, the patient had a tonic spasm every twenty minutes or half hour when first admitted, until the remedies prescribed began to take effect. During these spasms he bit his tongue rather severely, and it is from this source that the blood is derived which he occasionally expectorates.

As a general thing those subject to tetanus do not sleep much, but during sleep the rigidity is more or less relaxed. The disease is not only characterized by rigidity, but there is also spasm, never entire relaxation. Occasionally, at varying intervals, dependent upon circumstances, it becomes violent and painful. As in this case, it usually begins about the jaws and neck, and then involves the muscles of the back, the sides, and the abdomen, and these contract with such tremendous violence that they are sometimes torn across, and in post-mortem examinations they have been found severed, thus showing how extremely violent the contractions have been. As a general thing the mouth is clogged with viscid, glutinous sputa. There is dyspnœa, especially in paroxysms, that is occasionally aggravated to the degree of apnœa. This is in part dependent upon spasm of the diaphragm, in part upon spasm of the glottis, and upon the rigidity of the muscles of the jaw. There may be comparative voicelessness. The words are not enunciated with full voice, but are squeezed out, so to speak.

The pulse is usually greatly accelerated, but in this case, as I have already stated, it is now only 72. The temperature is generally elevated, and may become exceedingly high, rising, after a violent spasm, to even 105°. In fatal cases it is noticed that the temperature rises very considerably after death, as it does in some other diseases, for instance, cholera. As a rule the skin is very hot, and it is often bathed in profuse perspiration. It has been said that in tetanus there is no true fever. In mild cases there may not be, but in those of a severe type there is certain to be fever, unless the case should suddenly terminate fatally, in a few hours after its inception, as sometimes happens. Greatly increased reflex excitability is another symptom. Sometimes a jarring of the floor, or a breath of air, throws the patient into a violent spasm; even the contact of the bedclothes may produce the same unpleasant effect.

The word tetanus is derived from a Greek word meaning "to stretch," and is a very appropriate term, for as a general thing it is the extensor muscles that become rigid. The forearms are extended upon the arms, and the fingers may be extended upon the hands. The muscles of the back and the neck are tightly drawn, and during a violent spasm, as also sometimes occurs in meningitis, the patient's body forms an arch, supported by the head and the heels, this being known as opisthotonos.

Recent investigations make it probable that tetanus is inflammatory in character. It is what some writers call a central myelitis, that is to say, the gray matter is the seat of the lesion; this does not necessarily limit itself to that part of the cord, but it is the starting-point of the morbid process. Occasionally the white matter is implicated, and sometimes even the membranes.

The anatomical changes that take place are very various. They may consist of simple redness or engorgement of the vessels; there may be a certain amount of exudation, even some disintegration of the gray matter. But many writers will tell you that no lesion whatever has been found on post-mortem examination, and doubtless they tell you the truth, as far as they know. Their statements amount simply to this: that they have discovered no lesion of the cord. The probability is they either have not had the means of making a complete investigation, or they have neglected to do so; at any rate, that a thorough and exhaustive examination of the spinal cord was not made in these cases. Lockhart Clark, Dickinson, and Surgeon-General Hammond have shown very conclusively, I think, that tetanus is, in fact, an inflammatory disease of the gray matter of the spinal cord. The portion of the cord involved (whether upper or lower) depends upon various circumstances, perhaps upon the cause of the disease. There are two varieties: traumatic tetanus, the result of an injury, and idiopathic tetanus, which occurs independent of any trauma. When the disease comes on idiopathically it usually manifests itself as it did in this case, for I cannot believe this little bruise, which occurred two weeks ago, has had anything to do in producing this malady. Perhaps if we examine him carefully we will find he has been exposed to cold and damp. I have known the disease to occur, and authors will tell you it may be developed, in consequence of exposure. Indeed, exposure to the vicissitudes of the weather is, next to trauma, its most frequent cause. Hence the disease is of greater frequency in the very cold and very warm zones. During the late war, according to Hammond. it was noticed that after a very cold or damp spell of weather the army reports furnished to the surgeon-general gave an increase in the proportion of cases of tetanus. The disease is said by some to have been produced by fright. It may be so, but I doubt it.

On questioning the patient, I find he has been lying down to rest upon the cold ground after his work was done, and the disease may have originated in that way.

As to the time between exposure and the occurrence of the symptoms, I can tell you nothing. I lack the facts to establish even a general duration of this period. It cannot be very long. This man exposed himself on Tuesday evening, and on the following Friday night the first symptoms set in. The disease sometimes proves rapidly fatal. It has been known to cause death in a very few (eighteen and even five) hours. It is a favorable indication when it runs a protracted course, but cases have been known to last many days, and then terminate fatally. The average duration in fatal cases is from three to five days. The prognosis is more favorable in idiopathic cases than in traumatic. In traumatic cases the symptoms are somewhat determined by the location of the injury; for instance, if this is somewhere about the upper extremities, the symptoms are likely to manifest themselves first in the neck. If in the lower extremities, the rigidity may first occur there, and it has been found that the nerves running from the part injured are in a state of inflammation; so that whatever be the exact mechanism of the disease, it seems that some morbific influence originating in the wound is transmitted along the nerves to the spinal cord. It has been stated that there is, perhaps, a morbid condition of the blood, and that this morbid condition results in certain changes in the spinal cord, and so affects it as to increase its polarity, rendering it unduly excitable. There is no doubt that the reflex excitability of the cord is greatly augmented, but there is no evidence that there is any blood-change that induces this condition of the cord. All we know is, that under certain conditions the spinal cord takes on an inflammatory action, and that this inflammatory action is first developed in the central gray matter; that it is not necessarily limited to that part, and that the congestion and irritation of the parts involved result in undue reflex excitability. You must remember that the cord generates nervous force, as well as conducts impressions, and it is especially the first of these functions that is implicated in this disease.

Is there any disease with which tetanus may be confounded? You may suppose that owing to the occurrences of opisthotonos it might be mistaken for cerebro-spinal meningitis, and I have no doubt that it has. I believe cases have been reported as tetanus which, in reality, were cases of acute spinal meningitis; but in the latter disease, as a general thing, the mind becomes involved, while in tetanus the mind is clear, and there are no head-symptoms. I leave out of consideration those very rare cases where there is coma, which, in some of the cases, must have been produced by the medicines given. You notice this man is drowsy and stupid. This is not due to the disease, but to the chloral and bromide of potassium he has been taking. Many cases of tetanus have been treated with opium, and in these cases there is a likelihood that the coma was rather due to the drug than to the disease. As a general thing, then, there are no head-symptoms, the mind being clear to the last, but there may be coma, or a certain degree of delirium, independent of any medication whatever, and the probability is that this is developed in consequence of interference with respiration, by which the function of hematosis is necessarily very much impeded. This only happens in cases where the spasms are violent and frequent. The circulation in the brain in such cases is undoubtedly more or less impeded. Tetanus has been confounded with strychnia-poisoning. There is no morbid condition that so closely resembles tetanus as strychnia-poisoning, and because the symptoms of the latter are produced by a substance acting through the blood, it has been argued that tetanus is also produced by some blood-poison, but we have no facts to support the hypothesis. In strychnia-poisoning, the history of the case is not that of tetanus. If, for instance, you have to deal with traumatic tetanus, the existence of an injury received some time previous would be one of the points in the differential diagnosis.

Then, in tetanus there is apt to be languor and lassitude, constituting a prodromic stage, whereas in strychnia-poisoning there is a degree of exhilaration and restlessness that is quite foreign to the period of invasion of tetanus. Furthermore, tetanus first manifests itself by rigidity of the muscles of the neck and by stiffness of the masseter muscles. You see in this case I cannot open the patient's jaws at all, and this inability was the first thing he complained of. In strychnia-poisoning the first indication of rigidity is commonly in the lower extremities, although there are some exceptions to that. I remember having taken strychnia some years ago in pretty large doses, and the first indication of rigidity from the drug was *in the jaws*. I noticed that in speaking I had some little difficulty in pronouncing certain words, and also in managing the facial muscles, and I felt, in addition, a degree of energy that was even beyond that which was usual with me in a state of perfect health. One day, when I had taken a fuller dose than common, I noticed some little stiffness of the muscles of the neck, and at one time, very suddenly, a decided difficulty in getting my breath. These symptoms passed quickly away on discontinuing the drug. I mention this in order to show that even slight cases of strychnia-poisoning may exceptionally be manifested first in the jaws and in the neck.

A very excellent *résumé* of the points involved in the diagnosis between idiopathic tetanus, hysterical tetanus, and strychnia-poisoning, will be found in H. C. Wood's Materia Medica, Therapeutics, and Toxicology. In making the diagnosis between tetanus, idiopathic and hysterical, the sex, the hysterical temperament, and the history of the case go far to establish a correct conclusion.

The prognosis is grave even at the best. A certain number of cases will get well no matter what is done, and a certain number will die.

In looking over the history of the therapeutics of tetanus you will discover that a great number of medicines have been used, and recoveries have been reported under any and all of them. On the principle that the disease is inflammatory in character, there are certain remedies that ought to be used. On the principle that the prominent symptom must be treated, and that spasm is the trouble that proves most dangerous—death, I have no doubt, often occurring from spasm of the glottis, and it has been suggested that death has occurred from spasm of the heart—acting upon this principle, I say, there are certain remedies that suggest themselves on theoretical grounds, and my own experience warrants me in saying they afford the best prospects of recovery. They will not always establish a cure, nor can I say in what proportion. Nevertheless I believe I am entitled to say that the plan of treatment I am about to mention is, in the present light of knowledge, the best that can be proposed.

I believe that ice-bags applied to the spine, as recommended by Hammond, constitute a most important and beneficial application. They should be applied along the whole length of the spine and kept up until the disease has yielded. We know that cold lessens congestion, because contraction of the vessels diminishes the amount of blood in them, and cold also lessens reflex excitability. Thus it fulfils a double indication. Among internal remedies the best are bromide of potassium and chloral. I would prefer to give them in combination, and they should be given in full doses. The patient should be kept under their influence continually, and when the disease shows evidence of yielding by relaxation of the masseter muscles and lessened stiffness about the jaws, and the tendency to retraction of the head and the occurrence of spasm grow less, then and only then should the doses be lessened and the interval lengthened. Another remedy has been used with a great deal of success, although the experience of clinicians respecting its efficacy is decidedly conflicting, and that is the calabar bean. I think a good way to administer it is in the form of an extract, one grain by the mouth every two hours until its peculiar effects have been manifested in the form of muscular relaxation. A better plan, perhaps, after which to give it is in the form of hypodermic injections (gr. ⅛) of the extract, repeated every two hours until the patient is thoroughly brought under its influence, and then afterward keep up its effects by the continued dose by the mouth.

Should anything be done in this case to lower the patient's temperature? I do not think it necessary to do anything beyond what I have already suggested. This patient's temperature is about 101° at present. Under the continued doses of the bromide and chloral his temperature will go down still more. The fever arises, in part, from the inflammatory trouble in the cord, and in part it is due to frequent and severe spasm. As the frequency and violence of the latter are diminished the temperature falls.

The characteristics of the temperature in tetanus are somewhat of an aid in the diagnosis. Ordinarily in acute diseases the temperature falls before death, but in tetanus, as dissolution draws near, the temperature rises, and increases still more a few hours after death.

There is another remedy that ought to be used, and used freely, for several reasons. Statistics show alcoholic stimulants to give very good results. A very considerable number of cases treated by alcohol alone have recovered. Dr. Yandell, in his report of a large number of cases of tetanus treated by alcohol, gives a number of cases of recovery, amounting to eighty per cent. These cases were collected from the current medical literature of the day. All authors agree that the action of stimulants in cases of tetanus is beneficial. It is found that they allay the reflex excitability, they help to overcome the great sensitiveness of the surface, they tend to produce quiet and sleep, and aid in a certain degree to keep up the strength, and I am convinced the patient should have them, and have them freely. I will not pretend, however, to go over all the remedies that have been used in the treatment of this disease. Their number is exceedingly great, and, as I have often told you, whenever numerous remedies are recommended in the treatment of a disease, it is safe to conclude that none do much good.

Perhaps I can entertain and instruct you by relating a few other cases of tetanus that have come under my observation and which recur to my memory. The first case was that of a very large and muscular man—a perfect giant. He had worked out in the snow and cold, and as a result of the exposure he was attacked with tetanus in its worst form. It made such an impression upon me I shall never forget it. That strong man was bent back like a bow. He had a quiet and placid face, as the majority of very large men have, but it became frightfully distorted during the spasms.

The "risus sardonicus" became painfully marked; the nostrils became distended, the upper lip drawn up and the corners of the mouth backward and upward, causing that sardonic grin which has given rise to the term. The spasms occurred with terrible frequency and violence. He was treated by immersions in the warm bath, where he was kept by the hour, and stimulants were freely given. That was long before anybody knew anything of bromide of potassium, chloral, and calabar bean. He died at the end of ten days in a spasm (as I believe) of the glottis. Another case was the first in which chloral was used this side of the Alleghany mountains. In 1869 a bottle of chloral was sent to Prof. S. P. Breckenridge, then a colleague of mine, and through his kindness I was enabled to use the drug probably for the first time in the State of Kentucky. This case was of traumatic origin. The patient had suffered a severe injury of the foot, and the case commenced with symptoms of decided severity, but by the use of chloral, ten or fifteen grains every three hours, they were kept in abeyance for days and days, and I believe the man stood a pretty good chance to get well, when I was called away on business, and the case was put in the hands of another physician, who simply treated the case with poultices wrapped around the leg to allay the inflammation, but this did not prove very effective and the man died.

A third case occurred in a woman upon whom a resection of the tibia had been made. In that case the granulations were exceedingly exuberant. About the second week after the operation she showed symptoms of tetanus. The case was treated by pretty free administration of bromide of potassium and chloral, and the local application of nitrate of silver. It seemed in this case that the starting-point of the trouble was the excessively sensitive granulations, and it is very certain that from the moment the irritability of the nerves lying exposed in the granulating surface was reduced by contact with the nitrate of silver, the patient began to improve.

Another very interesting case was that of a little child that I had delivered with instruments at a little more than seven months. It was fully an hour before respiration could be established, the skin was excessively thin and sensitive, and in the delivery the head had to be compressed very considerably, the mother being over forty and a primipara. Although we expected the child would die, respiration was finally established, and at last the little thing gave evidence of an intention to stay awhile. On the third day it was attacked with trismus or the tetanus of new-born infants, and it had a very decided case of it.

I mention it to you in this connection, not because "tetanus neonatorum" is very unusual, nor because this case presented any extraordinary features, but because it affords me an opportunity to suggest to you a line of treatment that promises to be successful in similar cases. I treated that child by means of injections of chloral hydrate per rectum, which allayed the spasms, and the little one at length recovered. I have since treated a number of such cases in the same way with good results.

Many physicians at the present time believe that the tetanus of new-born infants is due to some injury of the umbilical cord. That there are nerves in the cord and in the neighborhood of the umbilicus, I think is pretty well established at the present time, and high authorities of the present day have expressed the opinion that trismus depends upon the surgical injury of cutting the cord. But be the cause what it may, I am sure nothing has given me better results than rectal injections of one or even two grains of hydrate of chloral. It has the advantage that there is no struggling of the little child in swallowing the medicine, which is difficult to accomplish at the best, and especially where there is rigidity of the jaws.

Tetanus sometimes occurs independent of external injury or exposure to cold, in connection with the parturient state. This is called puerperal tetanus. The probability is that tetanus under such circumstances is of surgical origin, that is to say, the cavity of the uterus is in the condition of a wound—it is a raw, abraded surface. This is an idea advanced many years ago by Sir James Simpson, who said that puerperal fever is identical in its nature with surgical fever, and I have no doubt that it is. Or it may arise in connection with inflammatory processes in different localities, the spinal cord becoming implicated in the morbid process just as the lungs or other organs are in other cases.

Original Communications.

THERAPEUTICS AS BASED ON THE STUDY OF TENDENCIES.

By H. H. KANE, M.D.,

NEW YORK.

Certain terms, vaguely foreshadowing great truths, have for years found place in medicine, and while answering a certain purpose, have yet served to obscure the proper understanding of those facts the superficial recognition of which called them into existence. So long has this been so that to-day we know as much of the shadow and as little of the substance as did our ancestors. It has been, and is, so convenient to refer all peculiar action of drugs, foods, and atmospheric changes to an idiosyncrasy, and to do away with all puzzling details of investigation by classing certain individuals with certain ill-defined resemblances under the head of imaginary temperaments, that any thoroughly scientific study of the underlying causes of these peculiarities has never been made. This is the more surprising when we consider that the tendency in medicine of late years has been to modify the treatment of disease according to the conditions of the individual. This is well shown by the recent discussion regarding the propriety of bleeding and other reducing measures in the treatment of pneumonia, and the different conclusions arrived at with reference to its employment in hospital and private practice. This is simply a gross class distinction, but one that shows how professional opinion is tending. There are, however, finer distinctions and certain general principles underlying the whole subject that are neither recognized nor considered, but that are absolutely called for by the present state of the other departments of medical science.

The term idiosyncrasy has come to mean, in medicine, a peculiar personal susceptibility to some food, atmospheric change, odor, or drug—more often the latter. We all know that certain persons are rendered "nervous," delirious, tetanic, and are occasionally convulsed, by doses of morphia that in the average individual would have almost no effect, and if any, that of an hypnotic or anodyne. We have all either seen or read of individuals in whom quinine, aconite, arsenic, ergot, bromide and iodide of potassium, chloral. and many other drugs, produce cutaneous eruptions, affections of the eyes and ears, vertigo, nausea, syncope, convulsions, and other actions that in the majority of people are never seen.

There are national as well as individual susceptibilities—in some cases peculiar effects being produced, in others simply a peculiarity with reference to the amount of the drug necessary to produce its usual effect. This we see with regard to arsenic, mercury, opium, hashish, and other drugs.

There are likewise idiosyncrasies with reference to foods (partridge, wild duck, lobster, shell-fish, and certain kinds of vegetables), to the inhalation of certain vapors and dusts (as of ipecac, asafœtida, and valerian; the pollen of certain plants; the odor of cats, dogs, goats, etc.), contact with some plants (as sumach, ivy, etc.).

There are national and individual idiosyncrasies with reference to disease as well as to drugs, and there is of necessity a direct connection between the two. This fact—personal and national, or class susceptibility—was recognized and spoken of some years ago by Prof. A. H. Garod.

It is, he says, the habit of physicians to note carefully the physical signs of disease, while but little attention is paid to idiosyncrasy. Ravaging epidemics, endemics, and hereditary diseases affect some constitutions rather than others. The result is the development of peculiarities in the natives—the survivors of all countries—and these peculiarities are dependent, in large measure, on the natural selection thus insidiously and constantly at work. Visitors in Rome and Naples are but too likely to be attacked with fever of a typhoid stamp, in the same localities where the Italian enjoys perfect health on account of his being the offspring of those who in times gone by have resisted, by constitutional peculiarity, the malarial atmosphere. What qualities is the early death of the drunkard weeding out? What phthisis? The true American of the United States differs conspicuously from the Englishman. How is this so? These, adds Dr. Garod, are problems which deserve more attention than they receive.

As is seen, he ascribes, and very justly, I think, national idiosyncrasy to the sum of individual idiosyncrasies, the survival of those least antagonized, giving the preponderating tint to the whole picture. This applies to normal and abnormal, mental as well as physical peculiarities.

There are individual idiosyncrasies that, with certain modifications due to intermarriage, surrounding circumstances, etc., pass from generation to generation, and finally terminate in some distinct tendency. Those who have been for years the medical adviser of a family have noted how a certain peculiarity, physiological or pathological, physical or mental, in one generation, has been increased, modified, or obliterated in the succeeding generation or generations.

To arrive, then, at a proper understanding of this very important matter, it is absolutely necessary that there should be a careful study of human pedigree. The breeders of blooded horses and short-horn cattle are fully alive to the value of a carefully kept pedigree of their stock. The study of human pedigree should be much more thorough and extensive. There should be kept a careful record of diseases, cause of death, idiosyncrasies, advanced tendencies, general conformation, and the material introduced by intermarriage, as also the person's surroundings, social, mental, moral, and physical.

An autopsy should be had in every case where there is any doubt as to the cause of death. In this manner the tendencies to death in families and in individuals could, after a time, be learned with some accuracy, and such tendency be possibly combated. In every family we find certain members who show a peculiar susceptibility to disease of certain organs. We say that they are predisposed. Thus, exposure to cold or wet will almost invariably produce in one neuralgia, in another bronchitis, in another nephritis or cystitis. It is simply a tendency, and is analagous to that aggravation of *existing* disease by atmospheric changes, and chemical or mechanical causes.

This may be temporary or permanent, and in either case sets us a problem, the true understanding of which is locked up in the family pedigree.

We find, likewise, that certain individuals tend to die by the lungs, others by the heart, others by failure of the kidneys to perform their work, and still others by the brain. If we are able to determine the existing tendency to death in an individual, as may undoubtedly be done by a proper study of human pedigree, in the widest acceptation of that term, we shall be able to save three lives where we now save one.

As an example, take the following imperfect history: Johnnie Sammons, æt. 4½ years. Mother still living and healthy, with the exception of a proneness to faint from slight causes. Grandfather and father died of typhoid fever, same epidemic, the former from hemorrhage from the bowels, the latter from syncope on sitting up in bed. The oldest son died from asthenia following an attack of dysentery.

On the 4th of January the little fellow was attacked with diphtheria. Patches on uvula and one tonsil; thin, sanious discharge from nose. Temperature, 105.5° F.; pulse, 148. During the night dyspnœa was marked, suffocation seemed imminent, and on the morning of the 5th inst. Dr. —— performed tracheotomy, with great relief to the little patient. Although there was no lung complication, and the child was given concentrated food and stimulants freely, he sank rapidly, and died at 10.30 P.M. of the 5th, his demise being preceded by a few hours of intense restlessness, which was quieted by 10 grs. of chloral. The fever had been well controlled by quinine and aconite in large doses. Autopsy showed no inflammation of any organ save the larynx and pharynx. Heart dilated and filled with dark-colored blood.

Is there anything to be gained from a study of this case in its relation to pedigree and tendencies? Much. Here is a family, some members of which show a tendency to death by the heart; one of them is seized with diphtheria, successfully passes the first danger—that of suffocation—and succumbs to the second, death by the heart, under the use of certain drugs that are known to kill by the heart. We have, then:

(*a*) Presumable individual tendency to death by the heart.

(*b*) Known tendency of disease to death by the heart; and,

(*c*) The use of certain drugs that tend to kill by the heart (aconite, chloral).

What were the indications for treatment after the danger by suffocation was passed, and there existed no lung complication? Stimulants and nourishment. These he had. Drugs that directly stimulate a failing heart. These he did not have; at least not those that were the most called for. How much more light would have been shed upon this case by a full and accurate knowledge of the family pedigree!

The principle here involved applies to the treatment of all diseases, whether acute or chronic. Intercurrent accidents may, of course, somewhat modify disease or individual tendency, or both; but that in no way invalidates the claims of the main tendencies to our earnest attention.

The treatment of tendencies will, of course, be two-fold. Knowing the tendency of a disease to kill by the lungs, heart, or brain, as the case may be, we must have some cause for such tendency, and must treat the tendency producer as well as the tendency produced. For instance, if a patient has an intense fever that, by virtue of its processes, is destroying the nervous as well as muscular power of the heart, it would be foolish, indeed criminal, on our part to treat the tendency alone, viz., the failing heart-power, and not endeavor to reduce the fever by appropriate means.

A very important question naturally arises in this connection. Do those drugs which produce peculiar manifestations in certain persons in health produce the same in acute and chronic disease; and if so, how far are these drug idiosyncracies modified by, or how far do they modify disease tendency? Is there any key to tendencies to death hidden beneath personal susceptibilities to drug action? I think there is. For instance, it seems to be fairly well established that those individuals in whom syncope almost invariably follows the use of *small* doses of certain drugs that kill by the heart, would succumb more readily to other drugs having a similar action, or to disease having a similar tendency, than a person not so affected. A matter of this kind, to become firmly established, needs careful, scientific observation, and recorded experience in a large number of cases. Its bearing on the prevention and treatment of disease is readily seen by any one.

With reference to the question of human pedigree, I can readily understand how long a time would be required to establish it upon a sufficiently broad basis to make it of universal service. Much can be done by the physician now by causing to be kept in every family where he is a regular attendant a simple table of pedigree, extending as far back as reliable information can be had, and in educating the people up to that point where legislative action will be possible.

Physicians connected with our hospitals and large public institutions, those in the army and navy, and those connected with life insurance companies can do more to establish the matter upon a practical basis than those in private practice. Yet the latter should not, on that account, neglect it. Such statistics as would necessarily accumulate would, if of no other value, be of the utmost importance in the matter of prognosis and the study of longevity. Families would then be given the benefit of the highest attainable knowledge of their "constitutions" by their physicians; the word idiosyncrasy would no longer be a convenient cloak for ignorance; temperament would be a term having some actual meaning, and scientific accuracy and the practice of medicine would advance a step from the obscurity, confusion, and contradiction of empiricism to the light and order of rational, scientific medicine.

191 West Tenth Street.

* * *

Dr. Thos. R. Pooley, of New York, has resigned his professorship in Starling Medical College. Dr. Geo. H. Fox, of New York, has also resigned his position in the same institution.

A PLEA AGAINST THE RESECTION OF THE RIBS IN EMPYEMA.

By CHARLES A. LEALE, M.D.,

NEW YORK.

Nearly every month, either in our American or foreign medical journals, are we informed of successful results following the resection of ribs when the thorax has contained pus, and when the removal of portions of the bony walls were supposed to be necessary before a cure could be accomplished, and recently,* in the *Birmingham Medical Review*, one of the surgeons of the Midland Free Hospital for sick children gives an account of "nine operations, four of the children having recovered with expansion of the lung and restoration of the excised rib; in three others all discharge has ceased, and the lungs are in various stages of expansion. Another case is 'doing well,' and the ninth, almost moribund when operated on, died six hours later from asthenia."

I have performed thoracentesis on a number of children, and never yet have I been convinced that a resection of the ribs was necessary, and I believe it to be a dangerous procedure.

An illustrative case of restoration of the lung and pleura after the pus had remained in the thorax for several weeks, which I reported to the New York Academy of Medicine in 1873:

Case XI.—Empyema. Girl, nineteen months old. Chest opened by incision. This child was first brought to my class for diseases of children at the Northwestern Dispensary, February 14, 1870, her mother saying that she had been in poor health for two months; that the little one cried from pain whenever her chest was compressed while being lifted. On examination, there was dulness over the entire right lung; the left lung was in good condition. On the following day I made an incision between the seventh and eighth ribs, introduced the curved portion of a male silver catheter, and, with a Davidson's india-rubber syringe, removed sixteen ounces of thick pus. During the operation the pain was very slight, and after the removal of the pus she felt much better.

The wound, which was valvular, was easily closed by three fine silk sutures, then covered with court-plaster immediately after the operation. On visiting her forty-eight hours afterward, the plaster was found to have dropped off. The stitches were removed; wound entirely healed.

September, 1870.—She was brought to my office, her mother saying that during the past summer she had had several attacks of diarrhœa, from which she recovered. The child was then in excellent condition, and on examining her, all the lobes of the right lung were resonant, performing the necessary respiratory function, there being no reason to doubt her entire recovery.

Fourteen months after the operation of thoracentesis the child died of acute enteritis, and the necropsy made on the following day, assisted by Dr. Harwood.—Body well nourished. As there had been no noticeable abnormal condition, except the inflammation of the bowels, the abdominal and thoracic cavities only were examined. No peritonitis; the mucous membrane of the bowels presented the appearances of recent acute inflammation, and cause of death. The left thorax and contents were normal. On removing the right lung, it was found to be adherent, at several points, by pleuritic bands; at the superior and posterior borders it was inflatable. Over its surface were visible several small deposits of fibrinated lymph. All the lobes were inflatable. On cutting into the parenchyma, the only abnormal conditions existing were four or five portions, about the size of small nutmegs, of simply compressed lung. There were no cheesy or tubercular deposits found in any part of the body.[*]

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* London Lancet, Aug., 1880, p. 281.

By this case we see that not only long compressed pulmonary tissue can be restored, but that the pleura also, after weeks' contact with purulent matter, may be again made perfectly healthy, secreting serous membrane, and the remaining pleuritic bands of adhesion, with marks where old bands had been removed, clearly demonstrated the reparative power of not only the lung but its coverings.

I have reported cases where the accumulation of pus in the thorax of children has been so great that a dislocation of the clavicle has been produced before I had operated, yet by the removal of the intrathoracic pressure, by withdrawing the liquid, recovery has followed.

The great disadvantage of subjecting a child to such a heroic operation as the resection of ribs, simply for the purpose of permitting the thoracic walls to contract, is very justly, as the *London Lancet* recently pointed out in a very strong editorial article, to be condemned, as it adds several additional factors to prevent a cure, without at the same time adding anything to the simpler, safer, and more effective operation of uncomplicated thoracentesis.

Who can surpass the success of our own Dr. Bowditch, of Boston, who in a private communication to me stated, after having performed thoracentesis over 250 times, that he had never seen a single death caused directly by the operation. Could such a statement be made if, in his cases, he had removed portions of the ribs?

Then why leave the well-beaten tracks for unsafe ones at the risk of life, and as the editor of the *Lancet* not too forcibly put it, "That recourse to it is an admission of failure to obtain a 'cure,' the effect of which is in many cases as disastrous as the saving of a life at the expense of a limb."

It is now nearly ten years since I published the following conclusions as the results of my experience in thoracentesis, and the only addition made in subsequent operations has been the antiseptic precaution. They are as follows:

I would, as in tracheotomy and abdominal paracentesis, prefer to use the scalpel to open the chest.

1. As a safer procedure, knowing exactly what is being cut.
2. An incised wound is known to heal, if required, with greater certainty.
3. That by using a long, male silver catheter, the most dependent part of the chest can be emptied of its fluid contents, and there is no danger of pricking the lung from change of position or movement of the patient while the liquid is being withdrawn, as noted by Dr. Allbutt.
4. That when pus has commenced to undergo that change preparatory to absorption, the probabilities are that very little, if any, will be produced after the operation if the wound is immediately closed.
5. That, in closing the wound, under the above circumstances, the little atmospheric air admitted, and the small quantity of pus left, are very soon absorbed.
6. That if pus again accumulates in the chest, the operation is so easy, the pain so slight, and the closure so rapidly accomplished, that a repetition is nothing to be feared, and really causes less prostration than when a large incision is made, and possibly pus found with greater rapidity.
7. That atmospheric air, pus, and blood, even to the extent of about eight ounces, may be absorbed, and that the injured, compressed lung can again resume its normal condition, as so conclusively proven by recorded post-mortem examinations.
8. That when unhealthy decomposition has commenced, the wounds ought to be left open and the parts carefully disinfected.
9. That thoracentesis should oftener be performed for the quick removal of fluid from the chest, even as recorded during far advanced phthisis pulmonalis, when relief may be obtained, life prolonged, and painful death averted.

The resection of the ribs during the operation of thoracentesis has now been resorted to quite frequently during the past six years in America, Great Britain, France, and Germany, without adding to the safety of the patient, and in a large number of instances I firmly believe has been the means of long procrastinating an apparent recovery, while in others, death it appears has been the direct result.

* * *

ERGOT-POISONING.

By JNO. M. KEATING, M.D.,

CONSULTING ACCOUCHEUR TO PHILADELPHIA HOSPITAL; LECTURER ON DISEASES OF CHILDREN IN UNIVERSITY OF PENNSYLVANIA, ETC.

THE following case presents certain features of interest, and I do not remember to have read of one like it in any of our own or foreign journals.

I was engaged to attend Mrs. D—— in her confinement to come off the first week in the current month, as it eventually did.

The family had moved to the city from a country town some years ago, and Mrs. D. was placed under my care for uterine disease. She had some inflammatory trouble following a previous labor. After a short course of the usual treatment she entirely recovered, and soon after became a second time pregnant.

At the third month she over-fatigued herself by some house-cleaning duties, and a miscarriage resulted. I was absent from the city at the time, and upon my return at the end of the summer, found my patient relapsed into her former state, with side-ache, purulent uterine discharge, subinvolution and its accompaniments. Once more she regained her normal condition, and again became pregnant. As the uterus enlarged there were evidences of "binding down," probably from some old adhesions about the left ovarian region. For some weeks previous to confinement she was unable to leave the house, for the abdomen was very much enlarged. There was great flatulence, and the patient suffered continually from left sciatica. The child was a large one, but the pelvis was capacious.

Fearing some difficulty from uterine inertia, I explained her case to a medical friend, and urged her to send at once for him, should the messenger find me absent from my office. As is usual in these cases, the child came at an inopportune time, but my friend arrived early enough to save the patient considerable pain by the application of the short forceps of Simpson. The head had well descended, and was resting at the outlet, but the uterus was unable to contract sufficiently to produce expulsion.

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[*] Transactions of the New York Academy of Medicine. Series 2, vol. i.

There were placental adhesions of great firmness, and in consequence more than the ordinary amount of hemorrhage.

At last the uterus was well emptied, the binder applied, and ʒ ij. of the fluid extract of ergot administered—this by the doctor himself.

The patient was left comfortable, with instructions to the nurse to send for the doctor at once in case of hemorrhage, and while the messenger was absent to give the patient ʒ ss. of the ergot every half-hour till the doctor's return. By a misunderstanding the ʒ ss. of ergot was administered every half-hour from the time the doctor left. I reached the house a few moments after the messenger had been sent in search of me, and found my patient presenting an appearance that was indeed alarming. The face was of a bluish tint, and she seemed in great pain. The pupils were dilated, the pulse was quick, very weak, and occasionally irregular; there was dyspnœa, nausea (no vomiting), buzzing in the ears, and at times a tendency to syncope. The skin was cool and clammy. I was informed that another baby was expected. Upon inquiry, I learnt that in all she had taken about ℥ ss. of the fluid extract of ergot (and this was afterward corroborated by the medical attendant from the amounts left in the bottle which he himself had brought to the house). I loosened the binder, lowered her head, gave her some whiskey, and stimulated the circulation by rubbing, and in the space of half an hour the severity of the symptoms had gradually passed, and patient was left to sleep off a dose of morphia and potass. bromide that was administered.

One of the most interesting features in the case was the powerful uterine contractions. This alone was so marked as to have silenced in my own mind any doubts as to the efficiency of ergot, had I ever been a sceptic on the subject.

Cor. Twenty-second and Locust Streets,
Philadelphia.

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CASE OF

COMPOUND DISLOCATION OF LOWER ARTICULAR END OF HUMERUS.

With Fracture of Internal Condyle.

By GEO. E. McDONALD, M.D.,
SCHENECTADY, N. Y.

On the evening of July 22, 1880, Harvey B——, aged 8, was brought to my office for the treatment of an injury of right elbow-joint, which had been produced about two hours previously by being thrown from a horse.

An examination under ether showed the following condition of the parts: The whole lower articular end of right humerus protruded through the soft parts on the inside of the arm, the internal condyle was broken off and missing, and all ligamentous and muscular tissues were as thoroughly removed from the bone, for fully two inches on the outside and to a less degree on the inside, as the most careful dissector could have done it. The artery and nerve were uninjured, the articular ends of both radius and ulna were not displaced, and the periosteum was intact except at the point of fracture of the internal condyle.

With some difficulty the protruded bone was replaced, two sutures were put in the upper part of the wound, the arm was placed on a rectangular splint, and an evaporating lotion applied. For five or six days there was considerable constitutional disturbance, not very great swelling of the part, but little pain, and but a slight discharge. The last named was so little I endeavored to increase it with poultices.

In ten days after commencing treatment I began passive motion, removed the splint in three weeks, and this morning, August 30th, the boy was in my office with wound entirely healed, the joint but very little enlarged, the motion of pronation and supination nearly perfect, and with not much restriction in any of the usual movements of the joint.

Progress of Medical Science.

Acute Idiopathic Perichondritis of the Nasal Septum terminating in Abscess.—Dr. Clinton Wagner reports a rare case of this disease in a well-known actress attached to a popular comedy-stage in New York. Patient complained of a boil in her nose. A hard, small, circumscribed swelling was found near the junction of the cartilaginous and bony septum in the left nostril, for which warm fomentations were advised. On the fifth day the nose was largely swollen, pitted on pressure, had a dark and dusky color; there was centrifugal pain extending into the frontal sinus and brow; no pus. Thirty-six hours later, or after the beginning of the sixth day, the nostrils were occluded by the swollen septum, respiration being carried on by the mouth. Temperature was 105°, pulse 145, and there was occasional delirium. Free incision of the septum through the left nostril was followed by the escape of a large amount of thick, creamy pus, with plugs of slough. No pus was obtained by an incision through the right nostril until several hours later. In a few hours, or after the beginning of the seventh day, patient showed a tendency to stupor and collapse. The incisions were found to be closed, and after reopening gave exit to an uninterrupted flow of pus for several hours. Temperature fell to 101°, pulse to 110. The patient convalesced slowly, and after several weeks took to the stage again.

This seems to have been a true abscess of the septum. Wagner carried the probe through the knife-wound into the suppurating cavity, and as high up as the vomer. The cavity was drained of pus by means of a Pravaz syringe, and was treated with injections of carbolic acid and intra-nasal compresses of cotton. The necrotic process did not extend beyond the junction of the cartilage with the vomer, which, Wagner thinks, explains the absence of deformity or asymmetry of the nose.

Wagner regards an acute idiopathic inflammation of the septum as very rare, it being his first case in a register of 4,000 cases of nasal trouble. When not the result of injury, perichondritis of the septum may accompany syphilitic and scrofulous rhinitis.

Emphasis is laid upon early and free incision, from fear of an ascending meningitis.—*Arch. of Laryngology.*

Treatment of Hemorrhoids by "Crushing."—Mr. Pollock, of St. George's Hospital, London, employs an operation for hemorrhoids, which he terms crushing, and for which he claims the advantage over the ligature and the clamp and actual cautery, of being much less painful while it is equally effectual. The painfulness of the two last-named operations has always been a great objection to their employment, and while considering whether any modified process likely to be followed by less pain could be substituted for them, Mr. Pollock's attention was drawn to the known fact that any thorough and instantaneous destruction of a part is usually comparatively painless. It occurred to him, then, that if a pile could be rapidly and effectually destroyed at its base, by some instrument which would crush the part included in its bite, the vessels of the crushed portion would not be very liable to bleed when the surface of the pile would be removed, and, the nerves being bruised by the proceeding, the pain would probably be trifling. Some two or three years ago he began to put these views in practice, and his experience with the operation has been amply satisfactory. In the earlier operations he was often not as successful in preventing hemorrhage as was desirable, probably on account of defective construction of the clamp, or of taking up in its grasp too much of the tissue of the pile at once. Still, the hemorrhage was never alarming and was always easily controlled by two or three ligatures. In his late operations with an improved clamp, occasionally one or two small vessels have bled after the base of the pile was removed from the grasp of the instrument. The hemorrhage in these cases would probably have ceased spontaneously, but a ligature was always applied to any suspicious point for the sake of cleanliness, and to avoid giving any cause for alarm. From the very first, however, the operation proved very successful in one important particular, viz., the pain following it was very insignificant. The slough shed after the application of the crusher is very thin, and the œdema is slight compared to what often occurs after the other operations. The final results in the cases operated on have been fully as good as those obtained by the ligature and the actual cautery.

Mr. Pollock uses a powerful clamp made for the purpose by Wright & Co., of London. The steps of the operation are as follows: the patient is prepared for the operation in the usual way; when he has been brought under the influence of ether, he is turned on his left side and his right leg is well flexed and fixed with a strap, which is carried under the knee and around the neck. The pile to be removed is then drawn well down, and the clamp is applied to its base and at once tightly and firmly closed by the action of the screw at the end of the handles. The portion of the pile which protrudes *inside* the lips of the clamp is then to be removed with curved scissors. The clamp should be kept applied to the stump of the pile for about a minute longer, or for a still longer period if the pile be large and thick. The process is of course to be repeated according to the number of masses to be got rid of.—*The Lancet*, July 3, 1880.

ON GLYCERINE IN FLATULENCE, ACIDITY, AND PYROSIS.—Drs. Sidney Ringer and Murrell state that they have found glycerine very useful in flatulence, acidity, and pyrosis. It is not an infallible remedy, but it proves very useful in the great majority of cases, and sometimes succeeds speedily where the commonly used remedies have completely failed. The cases of flatulence in which it has been used were cases of stomach flatulence; as it is so readily absorbed it could not be expected to influence the formation of wind in the colon. In some cases it removes pain and vomiting, probably like charcoal, by preventing the formation of acrid acids which irritate delicate and irritable stomachs. The glycerine probably acts by preventing some forms of fermentation and putrefaction, but it does not interfere with the digestive action of pepsin and hydrochloric acid. Hence, while it prevents the formation of wind and acidity, probably by checking fermentation, it in no way hinders digestion. The dose is one or two drachms before, with, or immediately after food. It may be given in water, coffee, tea, lemonade, or soda-water. In tea or coffee it may replace sugar. In some instances a cure does not occur till the lapse of ten days or a fortnight.—*The Lancet*, July 3, 1880.

HIGH TEMPERATURE FROM CONSTIPATION.—A patient in the Massachusetts General Hospital, while convalescing from a mammary abscess, suddenly developed one morning a temperature of 104.5° F. The abscess was rapidly healing, and the temperature during the preceding eight days had not risen above 99° F. The patient, however, had not had a movement from the bowels for four days. An enema of soap-suds was given, and in less than an hour after this had operated, the temperature fell to 100° F., and continued normal afterward. The patient made no complaint, nor was there any phenomenon of any sort to account for the high temperature, unless the constipation would do so. No remedy was used except the enema.—*Boston Med. and Surg. Journal*, Aug. 12, 1880.

CHLORAL-HYDRATE IN ATROPINE-POISONING.—Several cases of chloral-poisoning have been reported in which atropine proved decidedly useful, but the following case, which is reported by Mr. Trocquart, is the first one recorded in which chloral proved effective in the treatment of atropine-poisoning. A very powerful man, twenty-four years of age, took, to relieve an attack of tinnitus aurium, an infusion prepared by himself from a handful of belladonna leaves. Half an hour after taking the medicine, symptoms of violent poisoning appeared, and emesis was produced by tartar-emetic. After three hours, violent delirium set in and persisted with short pauses of four or five minutes' duration. Four grammes of chloral-hydrate were ordered, but the drug could not be administered internally, as the trismus was so severe that the patient's mouth could not be opened; five grammes of the drug were therefore administered by injection. The violent muscular spasms ceased soon afterward, and the patient rapidly became quieter, so that in a short time it was possible to give the chloral by the mouth. The patient passed a quiet night, and on the following morning complained only of great muscular weakness.—*Allg. med. Cent. Zeit.*, July 21, 1880.

THE PAINLESS CURE OF INTERNAL HEMORRHOIDS.—Dr. Reuben C. Vance, of Cincinnati, advocates a method of treatment for internal hemorrhoids (*Med. and Surg. Rep.*, May, 1880), which he claims to be both painless and effectual. As a general rule, when the tumors are uninflamed, the most sensitive part is a narrow band just at the base of the growth, where the lining membrane of the rectum is reflected on the hemorrhoid. This band may not be the tenth of an inch in width. The rectal walls just beyond this band are slightly more sensitive than the general surface of the rectum in the neighborhood. Tracing the sensibility of the tumor itself from the band encircling it at its junction with the rectum to its summit, it will be found that there is a rapid loss of all perception of painful impressions as we pass from base to summit, until finally, at the top of the tumor, a needle can be run through its apex without exciting any pain or at most but very little. Dr. Vance's treatment consists simply in passing a seton through this anæsthetic region. The treatment is only applicable in hemorrhoidal tumors which are not inflamed. The tumors also must be purely internal tumors, the deeper and larger the better. In passing the setons it is necessary that the tumors be completely extruded. This done by means of enemata of hot water, the uppermost tumor should be operated on first; the spot where sensibility is least should be sought, and a curved needle passed through it, care being taken not to go too deep, or to bring the needle out too far from where it is entered. By attending to these points, the needle is passed without pain; but, if passed too deep, or carried too far from the point of entrance, pain will be excited, and the rectum will contract and the tumor return. As soon as the needle is passed, the ligature is to be tied into a loop about six inches long; this loop will enable the surgeon to control the movements of the whole mass of tumors. A double ligature should next be passed through each of the other tumors, and the threads tied so that there is not more than an inch of loop in all. Finally, the upper tumor is to be drawn down by means of the double thread through it, and a knot tied in the latter so close to the tumor that all the setons may be alike in length. The superfluous thread should then be cut off, and the tumors returned within the anus. This done, the patient should be instructed to keep his bowels freely open, and, above all, to at once assume the recumbent posture should any pain develop in the parts. Cases vary widely in the disposition of the seton. In some this comes away within a fortnight, leaving an ulcer that continues open until the hemorrhoidal tumor disappears; in others, it remains until all the pathological products have been absorbed, and then drops out. If the seton sloughs out and the opening heals with some of the tumor still remaining, a new seton is to be passed, just as if none had ever been introduced. It takes from five to nine weeks to cure an average case by this method, but the patient can continue his ordinary avocations during treatment. This is said to be the method employed by certain irregular practitioners who have great reputations in rectal surgery, and who undertake to cure internal hemorrhoids "without pain or detention from business," and. of course, "without caustic or the knife."—*Walsh's Retrospect*, July, 1880.

Neuralgia of the Testis.—Prof. Wm. A. Hammond contributes an article to the *St. Louis Courier of Medicine*, May, 1880, on Neuralgia of the Testis, in which he relates the histories of two cases, which were successfully treated by a method not hitherto employed in this affection. The first patient, æt. 47, had suffered more or less severely for over fifteen months. He admitted that the affection was originally, in all probability, induced by excessive venereal indulgence, but insisted that since the inception of the disease he had been extremely temperate in this direction. There was no evidence of syphilis. The pain was of a sharp, lancinating character, not confined to the testicle, but extending up the cord as high as the external abdominal ring. The cremaster muscle was, during the continuance of the paroxysms, the subject of strong spasm. Walking increased the pain, and sometimes brought on a seizure. The patient had tried all sorts of treatment without relief, and Dr. Hammond had already given an unfavorable prognosis, when the idea struck him that possibly strong pressure applied to the spermatic cord, so as to compress the nerves, might arrest the spasms. He extemporized a compressor out of an ordinary test-tube holder and a strong India rubber band, and applied it while the patient was suffering from a severe paroxysm, so as to compress the cord as high up as possible. So far from adding to the pain he was suffering, the immediate effect was a decided amelioration, but after a few minutes the pain began to increase and soon became more intense than before. The pressure was then increased by squeezing the blades of the instrument together with the fingers, and the pain stopped at once. The instrument was kept applied for fifteen minutes longer. Six hours afterward there had been no return of the pain, and to the present date the patient has remained entirely free from all pain. Sensation, which was destroyed by the pressure, has returned to the scrotum and testicle, and there are normal erections and sexual desires. The other patient, æt. 38, had suffered from the neuralgia for three months, and at the time he came under observation his suffering was particularly acute. In this case there was no reason for suspecting excessive sexual indulgence or syphilitic infection as the cause; apparently it was due to exposure to cold. As in the other case, the right testicle was the seat of the disease. Walking, sitting, or standing aggravated the suffering, and only by lying down on his back did he obtain any marked alleviation. Since the inception of the malady, venereal desires had almost entirely ceased, and erections such as those caused at night by lying on the back, or by distention of the bladder, added greatly to the suffering. Pressure was applied to the cord by means of an apparatus similar to a lemon-squeezer, but so arranged that the blades could be brought closer together or separated by means of a screw passing through them. In this way the pressure could be more exactly adjusted than by the elastic bands used in the previous case, and could, moreover, be rendered much greater, as occasion might require. The cord was compressed strongly at first; there was some little local pain, chiefly in the skin of the scrotum, but the pain in the testicle was immediately arrested. After five minutes had elapsed, the blades were separated so as to allow the circulation to be resumed, but in five minutes they were tightened again; after another five minutes of strong pressure they were adjusted so as to permit the circulation to go on, but yet exert considerable force upon the nerves, and while thus arranged the patient fell asleep, the first undisturbed nap that he had had since the beginning of the disease. For several days afterward the testicle seemed to be numb, but the insensibility is evidently gradually disappearing. To be effectual in relieving the pain of a neuralgic testis, Dr. Hammond believes that the pressure must be strong enough to break up the axis-cylinder of the nerves. If less than this, the pain will be aggravated; doubtless, in time, the nerve is restored to a state of integrity, but how long a period is required for this purpose cannot yet be determined.

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An International Congress was held on Aug. 21, at Brussels, under the presidency of the Count of Flanders, to consider various questions relating to the use of alcohol. The Congress was promoted by French and Belgian societies, having as their aim the strict limitation, if not the entire suppression of the employment of this agent, save as a medicine.

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New York, September 18, 1880.

FORCED STATISTICAL RETURNS FROM PHYSICIANS.

To the credit of the medical profession, it must be said that it has never been backward in lending its aid in any matters tending to advance the interests of state medicine. On the contrary, in its eagerness to give advice and help, it has shown such a disposition to force its services upon the public, that the latter not only expect such services to be freely given, but actually demand them under a legal penalty for non-performance. These are facts with which medical men have been long familiar; but, nevertheless, few will read the letter of "M.D.," in another column, without feeling that great injustice is done to good intentions, and that, in respect to the subject under consideration, the physician discharges more than his share of obligation to the commonwealth. It is well known that much of his professional services goes to the balance of charity, and of this not a small proportion to the direct benefit of the state, for which he virtually gets nothing in return. This may, for the sake of the argument, be considered a matter of choice, as is certainly the case with the service in such hospitals as are referred to by our correspondent, and in which patients abundantly able to pay receive first-class medical attendance for nothing. As has been truly said, the attendant can resign if he does not wish to continue his connection with the institution under such conditions. This is so entirely a matter of personal choice with the physician or surgeon so attending, that the remedy is in his own hands. Not so, however, with his relations to various local and state boards, so far as the furnishing of vital statistics and other kindred subjects are concerned. As a citizen, special and exceptional services are demanded of him, for which the State has no right to ask, and which in equity should not be rendered without some pecuniary return for them. And yet we are informed that the late conference on vital statistics hesitated to take any action in the direction of acknowledging in a suitable manner the valuable services so freely rendered to the various bureaux of the country by the members of the medical profession.

All the work which is forced upon the physician by law can be viewed in no other light than that of imposition. As a citizen, he must do his part in maintaining the government—in paying taxes, in conforming to such laws as tend to the benefit of the greatest number; but in all this he bears the common burden. When, however, services of a special character are demanded of him, for the ability to perform which he has had a special training, and for the rendering of which he is to receive nothing, the law very clearly oversteps its true prerogative. It is proper that registration of births should be made, and that all other vital statistics should be systematically collected; but why this labor should be saddled upon the general practitioner, and that, too, under the penalty of a heavy fine for neglect to do the same, does not appear.

If no one else could be found to do this work, there would then be some excuse for selecting physicians for the purpose. But then the physician is under no possible obligation to give these services to the state; on the contrary, the fact of their special value would impose a pecuniary obligation on the part of the state. As it is, however, most, if not all, of the duties imposed upon the physician by health boards can be intelligently performed, under his direction at least, by the parties whom he is attending. For instance, the parents should attend to all the necessary details in reporting the birth of a child, in giving notice of the appearance of contagious diseases in the family, and all other kindred matters. This may be considered part of the duties of citizenship, and the parties more directly interested should be compelled to perform them. Our correspondent very properly, in this connection, refers to the fact that very many births occur without professional attendance, when not even a midwife is present. The law does not compel a pregnant woman to obtain professional assistance; consequently, except that the parents of children are made responsible for correct returns of birth, there is a liability that the records will be incomplete. There is no more reason why the physician should be compelled to report the occurrence of contagious diseases in the families he may attend, than he should be to report every child he may deliver. In neither case is he paid for the time and trouble in so doing, while in many instances, by complying with the law concerning contagious diseases he may attend, he may lose many of his best patients. Patients are very loathe to believe that it is necessary for the family physican to act as a detective for a health board, and thus cause the forcible removal of a patient to a pest-house. And yet the physician is expected to do this—to place himself in a false position with his patient, to jeopardize his future attendance upon the family, or else subject himself to a comparatively heavy legal penalty.

It is right and proper that contagious diseases should be reported, and that the management of epidemics should be entrusted to sanitary boards; but why should physicians, more than any other class of citizens, be compelled to make such reports, not only without compensation therefor, but under penalty of a fine? After he has made his diagnosis of the disease, the responsibility of reporting it to the health authorities should be left with the family itself. If the family would willingly run the risk of evading such a law, it should do so at its peril. That such reports would not be made otherwise than by the physician in attendance is hardly an argument for compelling him to do so by law. Of course we are viewing the subject from the standpoint of justice to the physician as a citizen, in compelling him by law to do more than his share of public work.

If it could be claimed that the physician, by virtue of his vocation, has some special privileges granted to him by the state, he might in turn be willing to give certain services to the state by way of compensation. But the condition of any such service does not exist. On the contrary, the state does little or nothing to protect the physician in the practice of his profession. The history of all legislation proves that the state is inclined to favor the quacks rather than the regulars, under the plea that otherwise it would be encouraging class legislation. But this part of the subject needs no discussion in this connection; it is sufficient for our present purpose to protest against compelling the physician by law to do, in the line of his professional business, special services the like of which is not demanded of other citizens without suitable remuneration. It is hardly an excuse for the health boards to assume that because the physician may take a special interest in preventive medicine that he should be forced to do extra work at the sacrifice of time and money. The members of these boards are, almost without exception, well paid themselves, and are generally ready to ask for special appropriations when any new law enlarges the scope of their duties. But we have yet to hear of any appropriation being made or asked for by such boards, in order that a normal fee should be paid the physician for sending in his reports, thereby offsetting his liability to fine for failing to do so. There is without doubt a deep feeling in the profession against this mode of forcing services from its members, and the remarks of our correspondent are timely in inviting a more general discussion of the subject.

ON THE RELATION OF MUSCLE AND NERVE.

THERE have recently appeared in the columns of the RECORD a series of articles, by Dr. Thomas Poole, on the Relation of Muscle and Nerve. Our contributor has offered a new explanation of the mode in which nerve-impulses affect muscular tissue. The old theory that the nerve conveys an active stimulus to the muscle, which stimulus causes a contraction, does not seem satisfactory to Dr. Poole. He argues that what the nerve really carries is a paralyzing impulse. It is, he says, the natural tendency of muscle to contract. This tendency is inhibited by the nerves which go to it. When we desire a muscle to contract, an order is sent out from the central nervous system for the end-plates on the muscles to let go their hold. Electricity and other artificial stimuli, so-called, are considered to be really paralyzing agents, or suspenders of inhibition. The failure of muscles to contract at once when cut off from their cerebro-spinal centres is due, presumably, to the inhibitory power retained in the nerves themselves and their peripheral plates. As these gradually lose their power, the phenomena of secondary contractures and rigor mortis set in. The new theory, according to our contributor, offers a satisfactory explanation of the above phenomena. It also explains the various post-mortem muscular movements, as well as the cramps and convulsions that often accompany the diseases or the ingestion of poisons, which lessen or suspend the activity of the nervous centres. We cannot, of course, do justice to the theory in any brief presentation of it. We have, however, given its main points. These Dr. Poole has elaborated with great ingenuity and industry in his different papers; and he has gathered together many physiological facts which make his articles well worth the reading.

As far as the hypothesis is concerned, however, we are obliged to say that he has not yet demonstrated it; and, furthermore, that we do not believe he ever can. With the kindest feelings toward our esteemed correspondent, facts compel us to say that he does not seem to have thoroughly mastered his subject, and that he has not even treated it in a properly scientific manner.

On this account we do not care to go into any elaborate rebuttal of the various arguments that have been presented in our columns. Dr. Poole has shown that there are a number of phenomena in the physiology and pathology of the nervous system which are not yet explained. In this way he has rendered a genuine service by his labor. We can say no more for it.

The relations of muscle and nerve and the phenomena of muscular contraction are still points in physiology that are not wholly settled. A statement of such facts as are pretty definitely known, however, will be sufficient to show the weakness of the inhibitory theory of Dr. Poole, and will not, perhaps, be devoid of freshness to many of our readers who are presumably somewhat rusty in their physiological studies.

In the first place, it is known that a muscle can contract when irritation is directly applied, without the intervention of nerves. In living organisms, however, under normal conditions, muscle never does contract except through the medium of the nerves. If the motor nerves are entirely paralyzed by curare, muscle does not contract, as would be the case if these motor nerves had the inhibitory power asserted by Dr. Poole.

When a nerve is stimulated at any point, an impulse passes down it at the rate of about ninety-four feet per second, and, dividing up with the nerve itself, is distributed to the end-plates on the muscle. From these points the impulse is transformed, and passes along the muscular fibre in each direction from the end-plates. It goes in the form of a wave, at the rate of about ten feet a second. Accompanying this wave are molecular changes in the muscle, and with these is developed a slight electrical current. Following only $\frac{1}{100}$ of a second after this first wave, and at the same rate of speed, comes the wave of muscular contraction. The physical changes in a muscular contraction are well known. The molecular changes consist probably in a translocation of the molecules, causing the shape of the muscle-cell to be changed. There is, with this, an explosive decomposition, which results in the production of heat, carbonic and sarcolactic acids, as well as other chemical substances in very slight amount. Dr. Austin Flint, Jr., believes that urea is produced by and is a measure of muscular action. Urea, however, is not found in tetanized muscle; and the amount of nitrogenous product from muscular contractions is extremely small. The above are the phenomena of a single muscular contraction; if no impulse succeeds this single one, the muscle, which is perfectly elastic, returns to its condition of rest. In order to secure a permanent contraction, impulses at the rate of at least 19.5 per second must be sent into it from the central nervous system, or from whatever the point of stimulus chosen. The contracted muscle of a man is therefore always vibrating and giving out the same musical note, *i.e.*, one indicating 19.5 vibrations per second. This may be heard by listening with the stethoscope over the contracted biceps for example. It was argued by Dr. Poole that the rigor mortis represents the natural contraction of the muscle when relieved of its nervous inhibition. This is not the case, however; in rigor mortis there is no note of vibration, and there is a coagulation of the muscle-plasma, with the production of myosin. Myosin does not exist in living contracted muscle. There are certain physical changes which we need not enumerate, but which distinguish the phenomenon of rigor mortis from that of a regular muscular contraction. They are essentially different conditions.

The electrical phenomena which accompany a nerve-impulse and muscular contraction are highly interesting, and point away from any hypothesis of inhibition. Whether there are natural nerve- or muscle-currents is a disputed question. The theory that muscular contraction is an electro-motive phenomenon has the support of DuBois Raymond and others. At the recent meeting of the American Association for the Advancement of Science, the President, Dr. G. F. Barker, gave a quasi-endorsement to the electrical theory of Dr. Radcliffe, which makes the muscle-cell a veritable Leyden jar. We are inclined to doubt the value of these views; but, whatever their importance, it is well established that an electrical current is excited when the nerve sends an impulse to the muscle, and that just as this nervous impulse strikes the muscle, a similar, though stronger electrical current, starts up in that tissue. Whatever be the nature of "nerve-force," or "muscle-force," they are too much alike for us to consider the former a paralyzing and the latter an active contracting agent.

We may not have said enough upon the present matter to make clear the absolute inefficiency of Dr. Poole's hypothesis; we have, however, given enough of the facts regarding muscular irritability to allow the reader to reason out a condemnation if he chooses. We fear that, even as it is, there is need of some apology for arguing at length against what may appear utterly trivial, and in presenting facts that are already too familiar. The waves of "inhibitory" hypotheses, however, are becoming unpleasantly numerous. Dr. Brown-Séquard is struggling in the midst of them. He, indeed, has done such magnificent physiological work that we can forgive him a great deal; but the profession looks less kindly toward others. And Dr. Poole is inhibition gone mad.

THE AMERICAN GYNECOLOGICAL SOCIETY.

At the concluding session of the American Gynecological Society recently held in Cincinnati, the retiring president, Dr. Sims, took occasion to say that the meeting had been an unprecedented success. The research shown by the papers, the vigor displayed in the discussions, as well as the hearty hospitalities offered by the resident profession, had combined to make the occasion a very gratifying one. The reports that have been furnished us seem to justify this verdict. There were a number of papers that showed much labor, and nearly all awakened active debates.

The President, in his annual address, made a vigorous attack upon some of the defects in the constitution of the society. He urged that its membership be enlarged, that the restrictions regarding admission be less rigid, and that the policy of the society be more liberal. It should, he thought, look more kindly toward the work of the younger men.

The papers that were read dealt for the most part on large themes. Dr. Battey described the indications for the operation that goes by his name. Laparotomy, Quinine in Pregnancy, Trachelorrhaphy, The Position of Women during Labor, and Ulcerations of the Cervix, were among the topics discussed.

The proceedings of the society received more than usual attention from the local reporters. Some of these seemed to be impressed with a personal interest in the speakers, and pen-pictures of our leading gynecologists, graphic and flattering, were daily presented to the reading public of Cincinnati.

The attendance at the meeting was not large, not quite half of the members being present. This did not, however, at all dampen the enthusiasm. Professor W. H. Byford was chosen president for the ensuing year, and the society adjourned to meet next year in this city.

THE MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE annual meeting of this association is one of the most important scientific events of the year. It deserves some notice, therefore, from medical men, even though few of the subjects discussed relate directly to the medical sciences. The recent meeting at Boston was an unusually large one, and it was successful in every way. Nearly a thousand persons were in attendance, two hundred and eighty papers were read, and five hundred and sixty-seven new members were elected. Several members of the medical profession, who have distinguished themselves in physiology and other sciences, were made fellows. A Section on Biology was created, which insures for the future a larger number of papers bearing on medical science.

A report, found elsewhere, gives some of the more interesting features of the occasion. The annual address of Professor Barker is an able presentation of some of the problems relating to the phenomena of life. It was generally characterized by the daily press as a great oration, but we doubt if careful scientists will pronounce the same verdict. The address showed, we think, more of the bias of the chemist than of the knowledge of the physiologist. It is true, as Professor Barker asserts, that the phenomena of life are becoming more and more explained by known physical and chemical laws. But the actions of special organs cannot yet be expressed in the simplicity of chemical equations. It is too soon to say that emotion is a molecular vibration whose intensity can be measured by the plethysmograph. Neither is it at all settled that muscle is an electrical machine and its contraction a somewhat clumsy electro-chemical phenomenon. It will seem, we believe, to physiologists that there was just a little too much freshness to Professor Barker's pictures of vital processes.

The address of Professor Agassiz before the Natural History Section, and that of Professor Le Conte before the Entomological Club, were each better productions, from a scientific point of view, than was the oration of the President.

Taken with certain other recent scientific contributions, including especially the work of Professor Huxley on the crayfish, they show a certain change of attitude, which naturalists are now assuming, on the subject of the development of vegetable and animal forms. There was a time, not long ago, when every voice was strident in advocacy of evolution. Now, evolution is assumed as an established fact, and scientific effort is directed to explaining the many difficulties that lie in the way of the special applications of the hypothesis. This is the better and truer spirit; for, to increase our knowledge, we need research and not polemics.

A large number of the papers were on practical subjects, and many of the discussions had a popular interest. These were not, however, in excess, and, on the whole, the American Association can feel that its last annual session has done good work in promoting the interests of science.

THE SOCIAL SCIENCE ASSOCIATION.

THE American Social Science Association held its annual meeting in Saratoga last week. The object of this Association is the somewhat magnificent one of discussing measures for the perfection of society and the promoting of millennial conditions. This naturally puts a very wide field before the Society. At its annual meetings the range of subjects is extremely great, and some ridicule has been excited by the apparently miscellaneous character of the essays. The Society, however, professes no Utopian views, and it is winning a solid reputation for itself on account of its able and practical contributions to the science it aims to promote. Some of the best men of the country are now among its members, and its annual meetings rarely fail to furnish much that is new and instructive. It is gratifying to note an increased attention to the various branches of state medicine. A number of interesting papers relating to this subject will be found reported in another column.

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THE GOLD MEDAL OF THE BRITISH MEDICAL ASSOCIATION has been awarded to Dr. Wm. Farr, F.R.S., D.C.L., C.B., as an expression of their high opinion of his long, unwearied, and successful labors in behalf of statistical and sanitary science, as a recognition of the light he has thrown upon many physiological and pathological problems, and on account of the extraordinary service his work has rendered to the health of nations.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, June 21, 1880.

Dr. T. E. Satterthwaite, President, in the Chair.

Dr. Shrady presented on behalf of a candidate a specimen of cancer of the kidney. The patient from whom it was removed was a female child without any hereditary history of cancer, and in the enjoyment of good health up to February of the present year, at which time the mother noticed a tumor in the left hypochondriac region. This, the mother thought, might in some way have been connected with a slight fall upon the carpet, occasioned by a misstep during the previous month. But this, in the opinion of Dr. D. C. Cocks, the attending physician, was without the proper relation of cause and effect.

The tumor grew so rapidly that when the presenter was called in the body of the child measured twenty-one inches around the umbilicus. The tumor was rapidly encroaching upon the right side, and marked a line of dulness to about the region of the eighth rib. Before death this measurement was increased to twenty-seven inches. The average temperature throughout the whole illness was 100½°. The urine contained no albumen nor blood. The swelling, upon being pierced by the hypodermic syringe, gave exit to blood only. This being microscopically examined by Dr. Draper, was found to contain neither casts nor cells.

The diagnosis of malignant disease of the kidney was based upon the rapidity of growth and the fact that the colon was detected anterior to the tumor. At a subsequent stage Drs. W. C. Livingston and Aikens tested the contents of the tumor by aspiration, and also obtained blood only.

At the autopsy the diaphragm on the right side was found pushed up to the fourth rib on the left, and the third rib on the right side. The apex of the heart was between the second and third ribs, with the base at the sterno-clavicular junction. The tumor, which was kidney, was found adherent to the spleen by friable adhesions, and to the greater portion of the abdominal walls. The right kidney, with the exception of slight hypertrophy, was found to be healthy. Secondary deposits were found in the liver.

The microscopical appearances were those usually to be found in this form of cancer, to wit, an abundance of cells, together with free nuclei and very little intervening tissue. The presence of normal kidney structure determined the organ attacked. The mass in gross was soft, almost to pulpiness, even diffluent in character.

DISSECTING ANEURISM OF THE AORTA—RUPTURE INTO RIGHT PLEURAL CAVITY.

Dr. Peabody exhibited a specimen of dissecting aneurism, removed that day from the body of a man 39 years of age, a native of the United States, unmarried, a clerk by occupation. He was admitted to the New York Hospital on the 17th of May. He had been a hard drinker, but had never had rheumatism or syphilis. He gave a good history of chancroid and clap. Denied all history of injury or straining, etc. He was well up to two years ago, since which time he had had many symptoms of gastric dyspepsia. For several months he had suffered from severe pain in the back and right side. Four months prior to admission he noticed a hard pulsating tumor in the epigastric region just to the right of the median line.

On admission this tumor was very distinct. It measured six inches vertically by four and a half inches from side to side. It had no distinct expansile pulsation, but had a distinct double murmur. He was put upon Tuffnell's treatment of restricted diet and kept in bed. Under this treatment his pain decreased so that he was able to get along without narcotics, and in fact was feeling tolerably comfortable. He continued doing well up to the second of this month, when he suddenly experienced severe pain in the region of the lower lobe of the right lung posteriorly. He soon began spitting blood, and his temperature rose to 100°. He became quite weak. In this condition he remained until this morning, when he suddenly died in collapse without having exerted himself in the least.

The autopsy was made four hours after death.

Just below the diaphragm and occupying the site of the cœliac axis and superior mesenteric, there was found an aneurismal sac large enough to contain a hen's egg of large size. It contained both recent and old laminated clots, of which the latter alone remain. Its walls wherever exposed are very atheromatous, as is the aorta also below the aneurism. Near the lower part of the sac on the anterior surface is seen a ragged rupture half an inch long, through which the blood has made its way between the laminæ of the media upward into the loose cellular tissue of the posterior mediastinum. Here, about two inches above the diaphragm, it forced its way through a large opening into the right pleural cavity, where 2,300 cubic centimetres of pure blood were found. Beginning over the body of the first lumbar vertebra, the aorta, after becoming again narrowed, again enlarges, forming a sac considerably larger than the one just described. Beneath it the bodies of the last three dorsal vertebræ and that of the first lumbar are deeply eroded.

A recent hemorrhagic infarction was found in the lower lobe of the right lung. The heart is normal in size, but its muscular tissue is more deeply pigmented than usual. The valves are competent. The other organs were normal.

Dr. Delavan presented

PLASTER CASTS OF CONGENITAL MALFORMATIONS OF THE HAND.

The first was from a case in which the deformity was not hereditary. The left forearm was normal to the wrist, the carpal bones were fused together, and at the top of this single bone were five small bud-like projections, on two of which were attempts at the formation of nails. The other specimen, from a child two and a half years of age, contained but a thumb and forefinger, all the other bones of the fingers being absent. There was but one bone in the forearm and that was the ulna.

Dr. Tausky presented a specimen of

EPITHELIOMA OF THE VAGINAL PORTION OF THE CERVIX UTERI,

removed by Piffard's galvano-cautery.

Dr. Lewis Smith presented a specimen of

MYXO-SARCOMA OF THE KIDNEY.

removed from the body of a child, the history of which he gave as follows:

About the middle of May, I was called to see a child who was nineteen months old and was still nursing. The mother stated that its health had been good up to the age of twelve months, when it had a broncho-pneumonia which was pretty severe, from which, however, it fully recovered. Three months later it suffered another attack of the same disease, but likewise recovered therefrom without any serious complication. From that time the mother stated that the child seemed to droop. At the time of my visit I found a moderate febrile movement, the temperature being from 101° to 102° F. The examination of the child for the first few days was negative in character. Then some distention of the abdomen showed itself. There were no marked evidences of meteorism; percussion was somewhat dull, and there was no tenderness on pressure. On the left side there were evidences of the existence of a tumor. This I supposed to be splenic in character, although the patient had not been out of the city, and had not suffered from any malarial troubles. I could trace the hardness up to the ribs, and down as far as the crest of the ileum and the median line. Dr. Clark, who happened to be in the neighborhood, examined the child and concurred in the opinion that the tumor was due to enlarged spleen. When he pressed upon the kidney of that side he found that the organ touched the tumor or was continuous with it. The urine was scanty, and at times contained albumen. There was nothing else of special interest in regard to the history of the case. The child, during its illness, showed an especial aversion to farinaceous food. The evacuations contained mucus and streaks of blood. The child gradually sank and died of exhaustion June 11th.

At the autopsy the left kidney was absent and its place occupied by the tumor. The pancreas was also absent. The spleen was normal, but was dislocated somewhat by the pressure of the tumor. The small intestines, in one or two places, were adherent to the tumor and to the liver.

Dr. Heitzmann examined the tumor and expressed the opinion that it was a myxo-sarcoma of the kidney. **Dr. Smith** thought that, aside from the question of diagnosis, a very interesting feature in the case, in connection with the absence of the pancreas, was the marked aversion on the part of the child for farinaceous food.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Twenty-ninth Annual Meeting, held at Boston, Aug. 25th, 26th, 27th, 28th, 30th, 31st, and Sept. 1st, 1880.

[Special report for THE MEDICAL RECORD of papers relating to Medical Science.]

One of the most notable of the addresses was that by the retiring President, **Professor George F. Barker**, on some aspects of

THE PROBLEM OF LIFE.

The address was an exposition of the extent to which physicists and physiologists had already been able to reduce vital phenomena to chemical and physical processes. Prof. Barker tried to show that the muscle was a machine, and that its contraction was an electrical phenomenon rather than the exhibition of "vital irritability."

DISCUSSING THE NERVOUS SYSTEM AND ITS FUNCTIONS, he said:

"One function yet remains which cannot be altogether omitted from our consideration. This function is that of the nervous system. In structure this system is well known to all. In composition it is made up essentially of a single substance, discovered by Liebreich and called protagon, the specific characters of which have lately been confirmed by Gamgee. In function the nerve-cell and the nerve-fibre are occupied solely in the reception and the transmission of energy, which is in all probability electrical. There is evidently a close analogy between the nerve and the muscle, the axis-cylinder, like the fibrilla, being composed of cells, and having a positive electric charge upon the exterior surface, which has a tension of one-tenth of a volt. Haughton attributes *tinnitus aurium* to the discharge of nerve-cells.

The higher functions of the nerve-cell, those connected with mental processes, is a field too vast to be entered at this time. The double telegraph line of nerve, motor and sensory in their effect, but, as Vulpian has proved, precisely alike in function, are the avenues of ingress and egress. Every sensory impression is received by the *thalami optici;* every motor stimulus is sent out from the *corpora striata.* In the acts denominated reflex, the action goes from the spinal cord, and is automatic and unconscious. Should the impression ascend higher to the sensory ganglia, the action is now conscious, though none the less automatic. Finally, should deliberation be required before acting, the message is sent to the hemispheres by the sensory ganglia, and will operate to produce the act. Based on principles which can be established by investigation, a true psychology is coming into being, developed by Bain, Maudsley, Spencer and others. A physiological classification of mental operations is being formed which uses the terms of metaphysical psychology, but in a more clearly defined sense. Emotion, in this new science, is the sensibility of the vesicular neurin to ideas. Memory, the registration of stimuli by nutrition. Reflection is the reflex action of the cells in their relation to cerebral ganglia. Attention is the arrest of the transformation of energy for a moment. Ratiocination is the balancing of one energy against another. Will is the reaction of impressions outward. And so on through the list.

It will be seen that the distinguished orator is much surer of our knowledge of the nervous system than are most physiologists or neurologists.

He shows a still greater and more dangerous confidence in his endorsement of

CRANIAL THERMOMETRY AND OF THE PLETHYSMOGRAPH.

His remarks, which follow, show a pleased enthusiasm rather than the critical spirit which should characterize the president of a great scientific association; for surface thermometers and plethysmographs may indicate all that is claimed, but the scientific value of their results cannot yet be confidently accepted.

Another important fact concerning nervous action is that its amount may be measured by the quantity of blood consumed in its performance. Dr. Mosso, of Turin, has devised an apparatus called the plethysmograph—drawings of which were exhibited at the London apparatus exhibition of 1876—designed for measuring the volume of an organ. The forearm, for example, being the organ to be experimented on, is placed in a cylinder of water and tightly enclosed. A rubber tube connects the interior of the cylinder with the recording apparatus. With the electric circuit by which the stimulus was applied to produce contraction were two keys, one of which was a dummy. It was noticed that, after using the active key several times, producing varying current strengths, the curve sank as before on pressing down the inactive key. Since no real effect was produced, the result was caused solely by the imagination, blood passing from the body to the brain in the act. To test further the effect of mental action, Dr. Pagliani, whose arm was in the apparatus, was requested to multiply 267 by 8, mentally, and to make a sign when he had finished. The recorded curve showed very distinctly how much more blood the brain took to perform the operation. Hence, the plethysmograph is capable of measuring the relative amount of mental power required by different persons to work out the same mental problem. Indeed, Mr. Gaskell suggests the use of this instrument in the examination room, to find out, in addition to the amount of knowledge a man possesses, how much effort it causes him to produce any particular result of brain-work. Dr. Mosso relates that while the apparatus was set up in his room in Turin, a classical man came in to see him. He looked very contemptuously upon it, and asked of what use it could be, saying that it couldn't do anybody any good. Dr. Mosso replied, 'Well now, I can tell you by that whether you can read Greek as easily as you can Latin.' As the classicist would not believe it, his own arm was put into the apparatus and he was given a Latin book to read. A very slight sinking of the curve was the result. The Latin book was then taken away and a Greek book was given him. This produced immediately a much deeper curve. He had asserted before that it was quite as easy for him to read Greek as Latin, and that there was no difficulty in doing either. Dr. Mosso, however, was able to show him that he was laboring under a delusion. Again, this apparatus is so sensitive as to be useful for ascertaining how much a person is dreaming. When Dr. Pagliani went to sleep in the apparatus, the effect upon the resulting curve was very marked indeed. He said afterward that he had been in a sound sleep and remembered nothing of what passed in the room—that he had been absolutely unconscious; and yet every little movement in the room, such as the slamming of a door, the barking of a dog, and even the knocking down of a bit of glass, were all marked on the curves. Sometimes he moved his lips and gave other evidences that he was dreaming; they were all recorded on the curve, the amount of blood required for dreaming diminishing that in the extremities. The emotions, too, left a record. When only a student came into the room, little or no effect appeared in the curve. But when Professor Ludwig himself came in, the arteries in the arm of the person in the apparatus contracted quite as strongly as upon a very decided electrical stimulation. In an address of the retiring president of this association, delivered but a few years ago, I find this sentence: 'Thought cannot be a physical force, because thought admits of no measure.' In the light of the rapid advances lately made in investigating mental action, we see that in two directions at least, in its rate of action and of its relative energy, we may already measure thought, as we measure any other form of energy, by the effect it produces."

THE ANNUAL ADDRESS BY PROFESSOR ALEXANDER AGASSIZ,

before the Section on Natural History, was a model of scientific essay-writing. Taking a single genus of animals, the echinoderms, he traced their palæontological history and compared this with their embryological history. His conclusions were that it was impossible for naturalists to follow back the genealogy of living beings and say, with any certainty, what were their ancestors.

In the Subsection on Biology, which was permanently organized on the third day, a highly interesting contribution to vegetable pathology was given by MR. T. J. BURRILL, in a paper entitled

ANTHRAX OF FRUIT-TREES.

He stated that the widespread disease of the pear-tree, known as fire-blight, and that of apple-tree, known as the twig-blight, are due to a common cause. This is a living organism which produces butyric fermentation of the material stored in the cells, especially those of the liber. The organism is similar to, if not identical with, the butyric vibrione of Pasteur, and the *bacillus amylobacter* of Van Tieghem. It assumes various shapes during development, but its characteristic form is that of two oblong joints with rounded ends, the proportions of each joint being .002 mm. by .003 mm. They are shorter and thicker than the bacterium termo, and move more slowly. A large number of experiments resulted in showing pretty conclusively that these organisms conveyed the disease from tree to tree. The most conspicuous change in the tissues of the affected plant, revealed by the microscope, is the almost total disappearance of starch from the cells.

PROFESSOR BURT G. WILDER, of Cornell University, presented three essays upon the

STRUCTURE AND NOMENCLATURE OF THE BRAIN,

with special reference to that of the domestic cat. Professor Wilder is a firm believer in the great usefulness of the cat as a subject for anatomical work, and has in preparation a work upon the subject as a practical introduction to human and comparative anatomy. The titles of the three essays are as follows: "Partial Revision of the Nomenclature of the Brain;" "The Foramina of Monro in Man and in the Domestic Cat;" "The *Crista Fornicis*, a Part of the Mammalian Brain apparently not hitherto described."

Prof. Wilder's plan for reforming the nomenclature is something as follows: Since technical terms, he says, are the tools of thought, and the best workman prefers the best tools, anatomical nomenclature should be made as perfect as possible. That the nomenclature of the brain needs revision is evident from the great number of names applied to the same part, from the length and complexity of some names, and the inappropriateness of others. It is proposed, therefore, to discard all vernacular names, to make a selection of the shorter technical ones, to abbreviate some names by the omission of unessential words, and others by the substitution of prefixes for adjectives. For example, the single word *iter* is substituted for "aqueduct of Sylvius" and "iter a tertio ad ventriculum quartum." *Callosum* takes the place of "*corpus callosum*," and *fimbria* of "corpus fimbriatum;" for the ponderous terms "*corpora quadrigemina anteriora*" and "*posteriora*," Professor Wilder substitutes *preoptici* and *postoptici*. As to descriptive terms, like Barclay, Owen and others, Professor Wilder urges the adoption of terms referring to the longitudinal axis of the vertebrate body, and the rejection of such as apply to man in his erect attitude. By the use of *dorsal, ventral, cephalic, caudal, lateral, dextral, sinistral, mesial, ental, ectal, proximal, distal,* with their adverbial forms, *dorsad, ventrad,* etc., and the various possible combinations, all ambiguity may be avoided. The test of description is *not that* *it may direct, but that it cannot mislead.* Most of the proposed names are already in use. A few new ones are required to designate parts either unknown before or insufficiently recognized. Two of these, *crista fornicis* and *carina fornicis*, apply to elevations of the fornix found in the cat, sheep, and man, and do not appear to have been observed before. The new term *aula* (a hall or court) is given to the cephalic (anterior) part of the third ventricle between the *foramina of Monro*, or passages leading into the lateral ventricles. Professor Wilder regards the aula as of great morphological importance, and promises an essay on it at a future meeting. The foramina of Monro, so called in honor of the second Alexander Monro, Professor Wilder thinks should be more carefully studied than is usual, partly from their physiological and pathological aspects, but chiefly because the recognition of their existence is indispensable to a clear conception of the general relations of the ventricles and their walls. Their smallness in man and most other mammals, and the poor preservation of the parts in most alcoholic brains, seem to have interfered with their correct description, and Professor Wilder thinks he has for the first time accurately defined their boundaries, especially the dorsal boundary at the point of intrusion of the plexus.

Mrs. Richards read a report on

FOOD ADULTERATIONS.

Her inquiries covered only flour, sugar, bicarbonate of soda, cream of tartar, and baking-powders. The results of her investigations were very like those which have been heretofore made. She found very little adulteration, and that was comparatively harmless. Cream of tartar was the worst, and baking-powders next.

A report was read by **Mr. E. B. Elliott**, on a uniform system of

REGISTERING DEATHS, BIRTHS, AND MARRIAGES.

This uniformity is wanted he said: 1, for the better disposal of property, all of which changes hands at least once in twenty-five years; 2, to ascertain the relative salubrity of localities; 3, to determine the values of all interests based upon the duration of life, the tables now used being in the main of European origin.

Dr. B. Joy Jeffries read a paper on

COLOR-BLINDNESS,

which excited considerable interest, although nothing especially new was told. Four per cent. of males were, he said, color-blind. Only 10 out of 13,893 females examined were found so affected. This is due, perhaps, to ages of instruction in color which women have received. Age, race, color, education, condition of civilization, climate, all seem to have nothing to do with color-blindness. It is congenital, largely hereditary, and handed down through the females, though they escape it. It may be artificially produced by putting a patient in a hypnotic state; also those color-blind who can be put in this state may be temporarily relieved of their defect. It is incurable by any known practicable means, but it has been cured by tobacco and alcoholic poisoning, by injuries to the head, and by brain disease. It is sometimes a symptom of brain disease. It can be helped by gaslight, or by looking through pale lemon-colored glass, or a solution of fuchsine.

The following papers, bearing more or less directly on medical science, were read: "Comparative Anatomy as Part of the Medical Curriculum," by Harrison Allen; "Microscopical Investigations of the Havana Yellow Fever," by Dr. G. M. Steinberg. This paper gave, essentially, facts already more or less known. "Plan of the Cerebro-spinal System," by S. V. Clevenger.

Professor W. O. Atwater, in an essay on the nutritive value of fish, gives the following table. Taking medium beef at 100, we should have, as the nutritive value of like weights of fish free from bone: Medium beef, 100; fresh milk, 23.8; skimmed milk, 18.5; butter, 124.0; cheese, 155.0; hen's eggs, 72.0; codfish, fresh, 68.0; flounders, 65.0; halibut, 88.0; striped bass, 79.0; bluefish, 85.0; mackerel, 86.0; lake trout, 91.0; eels, 95.0; shad, 99.0; whitefish, 103.0; salmon, 104.0; salt mackerel, 111.0; dried codfish, 346.0.

A paper was read by **Dr. C. S. Minot**, "On the Summation of Muscular Contractions;" and one by **W. K. Brooks**, "On the Rhythmical Character of Segmentation."

ANNUAL MEETING OF THE AMERICAN SOCIAL SCIENCE ASSOCIATION.

Held at Saratoga, Sept. 7th, 8th, 9th, and 10th, 1880.

(Special Report for The Medical Record.)

The annual summer meeting of this association was opened by President **D. C. Gilman**, of Johns Hopkins University, Baltimore, who delivered an address on "The Purposes of the American Social Science Association." These were summed up as follows:

The aim of this association has been declared to be a study of the conditions which tend to make a perfect state of society where "each is for all and all is for each," and the discovery of those laws of coöperation which will secure to every individual his highest development. It is obvious that the inquiry is very complex, and will never be completely answered. Surely, this great problem must be much subdivided before any progress can be made in its solution. To begin with, all those subjects which pertain to the physical well-being of the community must be considered, and this includes not merely sanitary regulations, as they are commonly understood, but the freedom to exchange the products of one region for that of another. Next, morality, or social order, deserves consideration—the conditions of society which are favorable to temperance, chastity, honesty, frugality, industry, and quiet. Intellectual culture and the study of all the agencies which promote mental power next demand attention—our systems of education, direct and indirect, high and low. Finance comes next. Though the sanitary, the moral, and the pedagogical laws are understood, if the finances of a community are crooked, nothing will go straight. The currency is the route on which we all travel, and if that leads down a chasm, down go we all, though the rails be plated with silver. Sound legislation based upon wise jurisprudence must also be secured, and with good written laws must come good customs and usages. It is a wide field, we must acknowledge, which the association aims to cultivate, but if ever it shall be subdued it will be an earthly paradise—an enchanted ground.

One of the subjects most fully discussed was that of the education of children and of women. The subject was opened with a paper by **Col. T. W. Hig-**

GINSON on the kindergarten system. This he commended, but added a list of possible

DANGERS OF THE KINDERGARTEN SYSTEM.

As the system is rapidly spreading through this country, medical men ought to be familiar with such of these alleged dangers as may affect especially the physical condition of the child.

There is, said the speaker, the danger of overstimulating the brain in a manner injurious to and incompatible with child-life. This arises, in a measure, from the fact that the disposition of the child's time is made by persons of mature age and strength, who can seldom rightly gauge and estimate the importance of frequent changes and variety of occupations and the place that absolute idleness and repose hold in the healthy development of all children. As says Margaret Fuller of the forcing process insisted upon by her father in her own education, "Children should not cull the fruits of reflection and observation early, but expand in the sunshine and let thoughts come to them." The child, when left largely to its own resources, often defends itself from a tension of mind at once premature and injurious. There is the danger of overstimulating the nervous system, by which the digestion sometimes becomes so much weakened as to seriously interfere with the proper nourishment of the child's system, a danger the more perilous as the teacher is not likely to know of such a result until the family physician or the dispensary doctor is called upon for counsel when the difficulty has become a serious matter. And there is the danger of straining the eyes, a trouble whose symptoms are unknown to the pupil, and often unsuspected by the teacher. The sight of children in some instances has thus been permanently impaired.

In a later discussion, as to the proper time for children to begin to go to school, PRESIDENT GREGORY, of Illinois, expressed his belief that if children were kept out of school until nine or ten years old, at fifteen or sixteen they would be in advance of those who began school earlier. He said he had had experience, and this was his conclusion from several examples within his own knowledge.

A paper was read by MISS EDITH SIMCOX, giving an account of the educational work in England, especially that done for women. The subject of

MEDICAL CO-EDUCATION

was incidentally brought up, and MR. M. D. CONWAY related some of his experiences in the matter. He told the story of how Miss Garrett, now Dr. Garrett-Anderson, had to study medicine surreptitiously at the gates of Lock Hospital, and showing how the cause of female education had been advanced step by step, without any really serious opposition. The first lecturers repeated the lectures given to men's classes to those of women, but finally one professor said he could not repeat his lectures. If men and women could sit together in churches and theatres, he thought they could do so without harm to hear class lectures. Mr. Conway thought that in a few years the co-education of the sexes in the colleges and universities of England would be an assured fact.

In the Health Department, DR. D. F. LINCOLN, who presided, made an address on

THE NATIONAL BOARD OF HEALTH.

This, he said, had been in existence only eighteen months, and was brought forward to meet a national calamity by the yellow fever at Memphis, which the local authorities could not manage. It was called into existence in haste. Coming into existence under adverse circumstances, the Board had, by great exertion, become an assured success. The great and blind reliance upon quarantine had been done away with, and local cleanliness had been enforced. Great difficulty had been found at first in obtaining information and finding channels therefor, and, consequently, the Board could not deal intelligently with the epidemic of 1879 in Memphis. It is almost wonderful that a practical and right conclusion had been reached so soon when it is remembered that the American Public Health Association, which met in November, 1878, was prevented from giving any decisive expression of opinion as to the line of action to be followed, by lack of information regarding the epidemic which had scourged Memphis during the past season. Thanks to measures of local cleanliness, advised by the National Board of Health, Memphis is now a clean city, and it will be almost impossible for it to be again scourged by yellow fever.

In the same department a paper was read by its secretary, DR. E. W. CUSHING, on

REGULATING THE PRACTICE OF MEDICINE

by statute law. Within the past ten years, he said, laws to regulate medical practice in this country have been urged, and passed by various legislatures. The burden of proof of the necessity of such laws has been wholly with the promoters of these laws, as it must be admitted that all restrictive laws are in themselves bad, and only to be tolerated if they appear less bad than the evils which they are intended to remove. In Massachusetts such a law has been defeated, partly from strife between medical societies and much from the opposition of spiritualistic, clairvoyant, and magnetic interests, which are numerous, well organized and powerful in that State. The writer still hopes that some practical law may be evolved there which shall prove of public utility by really elevating and regulating the practice of medicine.

One of the best papers read before the Association, was that by DR. WALTER CHANNING, on the

TREATMENT OF THE INSANE,

in its economic aspect.

Dr. Channing said there is a true as well as false economy in the treatment of the insane. Any measure which will, in fact, cure or shorten mental disease, and thus shorten the time of treatment of the insane, may be regarded as in the interest of true economy. Such measures may be an expense for the moment; but, if they build a foundation for the more successful treatment of insanity in the future, they serve the proper end. Insanity is promoted by conditions which are favorable to the extinction of other diseases as well as public evils. The advance of civilization points out scientific principles which enable us to struggle successfully against and exterminate diseases which could not be formerly understood. Yellow fever for centuries was a scourge which could not be annihilated, but modern science has furnished the weapons to check its ravages. Insanity may be regarded as the residue resulting from intellectual and moral progress of the nineteenth century. Mankind gradually but steadily improves in cultivation, in art and science. Still, insanity increases. It is a lamentable fact that cures are effected less frequently, and the disease is apt to result in permanent weakness. Why is this? Why is one person out of every two or three hundred doomed to mental wreck. There is evidently some grave defect in this great social fabric, and to discuss its true nature becomes daily a more important duty. The truest economy will be that which traces insanity back to its origin and saves future generations from its terrible infliction. To understand the disease we should know the laws of physical and moral health. Yet, of all branches of the science of medicine, psychology is least taught and least understood. Good care will effect much in the treatment of insanity, and thirty to forty per cent. of recoveries are at present had in insane hospitals. Physicians have great facilities for studying and understanding mental and physical peculiarities, and therein are the most powerful weapons for combatting insanity. They have not, however, turned their attention enough in this direction.

ADDITIONAL PSYCHOLOGICAL STUDY NECESSARY.

It is one purpose of this paper to urge the importance of the study of psychology or psychological medicine by medical men. This subject has been generally neglected in medical schools. Students should have a thorough knowledge of brain anatomy and histology. The various terms of psychology should also be familiar to them and the pathological appearances of the brain should be learned from frequent dissections, and with this should be combined a knowledge of the spinal cord and nerve. A proper course of psychological lectures should extend over two years, and with this should be combined frequent recitations, as lectures are of little use except followed by recitations. In many instances weak men have succeeded to strong ones, and been content to follow methods heretofore pointed out, rather than to pursue and carry on further investigations, and therefore reactions have followed in regard to the treatment of insanity. The best-informed writers estimate that of eleven persons who become insane six recover and five die during the attack. Of the six who recover, not more than two remain well during the balance of their lives, the other four sustaining renewed attacks, from which two at least die. Superintendents of asylums say that more time is needed for proper treatment, and if this is so it should be granted. Physicians should also be increased. Medical schools should also have the advantages resulting from having the hospital near at hand. In closing, he urges the importance of the study of the pathology of insanity, and suggests that each patient in an insane hospital should have his whole history recorded while an inmate, so that after his discharge it would present a tolerably complete picture of his disease and treatment while therein.

A paper was read by **PROF. S. W. JOHNSON**, of Yale College, on the

ADULTERATIONS OF FOODS, DRUGS, AND DOMESTIC ARTICLES.

The paper was an exhaustive review of the subject of adulteration of food as practised by the tradesmen of England and the United States in the past and at present. Great Britain was pronounced to be the historic field of food-adulteration, because it had been the most fervent centre of all industries, of all commerce, and of all modes of money-getting. From the long list of adulterations mentioned may be taken the following:

Wheaten flour, with rice, barley, peas, beans, buckwheat, millet, and boiled potatoes; bread with alum, sulphate of copper; yeast with alum; baking-powders with terra alba, such as plaster-of-Paris, whiting, and kaolin; milk with sugar, salt, soda, and chalk, annotto and turmeric, gum dextrine, emulsion of hemp-seed, boiled starch, and pulverized brains; cheese with potatoes, beans, vermilion red and red chalk, sulphate of copper, arsenic, and corrosive sublimate; lard with boiled starch, alum, and quicklime; confectionery with chromate of lead, red lead, and vermilion, Prussian blue, copper, and arsenic; pickles with sulphuric acid and verdigris; mustard with wheat flour and turmeric, charlock seed, cayenne, and ginger; coffee, ground, with roasted acorns, spent tan-bark, spent logwood, mahogany, sawdust, and burnt horses' liver.

Professor Johnson said: "Are we in the United States liable to suffer in purse and in health from the adulterations that are now practised upon our food? The reasonable answer is a qualified negative. We are not suffering serious loss of goods or of health." A communication was read from Leroy Parker, of the Michigan State Board of Health, recognizing the importance of the subject, and urging the necessity of arousing public opinion to secure the enforcement of laws against the adulteration of food.

After the reading of this paper, **MR. GEO. P. ANGELL** began a discussion, in which he claimed that adulterations were much more common and excessive than was indicated by Prof. Johnson. He finally read the following:

Whereas some chemists and writers have asserted that there is now a large sale, in American markets, of poisonous and dangerously adulterated foods and other poisonous and dangerously adulterated articles; and whereas other chemists and writers deny these assertions; and whereas the public health, public morals and large amounts of capital are interested in the right solution of this question; and whereas it is essential to its right solution that both sides be fairly heard; therefore, I make the following proposition to the American Social Science Association, viz.: I will put into the hands of its treasurer or general secretary either $50 or $100, whichever sum may be required, provided any chemist or other person in the United States will do the same, said sums to be expended as follows: such chemist or other person shall prepare or cause to be prepared an essay showing that there is little danger to public health from the above cause, and giving proofs. I will then prepare or cause to be prepared an essay of similar length showing that there is great danger to public health from said cause, and giving proofs. The two shall be published by the association in one pamphlet, and sent to all leading newspapers of the country for such use as they shall deem judicious.

(This proposition has, we learn, been accepted by Dr. H. A. Mott, of New York, on condition that Mr. Angell prepares his paper first and submits it to Dr. Mott for reply.)

Quite a sharp debate followed the remarks of Mr. Angell. Most of the speakers were inclined to think that adulterations were not so bad as has been supposed. Glucose and oleomargarine each got a good word.

The only remaining paper having any medical interest was one by **MR. EDWARD M. HARTWELL**, of Massachusetts, a fellow of Johns Hopkins University, on

LAWS REGULATING DISSECTION AND GRAVE ROBBERY.

The history of anatomy in ancient and modern times was considered, especial attention being paid to the edicts of princes, the canons of the church and legislative enactments relating to it. The history of anatomy acts in England was given, and the New York act of 1879 was considered to be the germ of all subsequent American legislation regarding dissection and the desecration of sepulchres. The writer having compiled all the American acts on anatomy, and investigated the actual state of affairs in several medical schools, compared European and American anatomy in their legal, scientific, and economical aspects. The paper will prove a very valuable one to all interested in medical education or anatomical science.

The Association elected Francis Wayland President for the ensuing year; F. B. Sanborn, Secretary. The officers of the Health Department are: Dr. D. F. Lincoln, of Boston, Chairman; Dr. E. W. Cushing, of Boston, Secretary.

Correspondence.

IMPOSITIONS UPON MEDICAL PRACTITIONERS.

To the Editor of The Medical Record.

Sir:—I notice that the late conference on vital statistics has had under consideration, as is usual in such bodies, the propriety of doing justice to private medical practitioners for their public services in making reports on matters relating to the same, but hesitate to take any definite action. They do not even go so far as to make any allowance for stamped envelopes and other necessary stationery. This, certainly, is very significant of the kind of men who compose this commission, or, at least, of the ruling spirits of it. I do not know their names, nor do I care to know them; but feel assured that they are men whose professional services are not much valued by themselves or by the community in which they reside.

No other class of professional men have such impositions to bear at the hands of the public as ours. Our hospitals are fair exemplars on the one hand, and the health boards of our cities on the other. It is required of the hospital staff that they attend upon every case admitted to the institution, without reference to the ability or want of ability of the patient to pay for the service rendered. It is a well-known fact that there are patients in the hospitals of this city whose financial conditions are far beyond that of the surgeons or physicians who attend them; yet all that is required of them by the management is, that they pay punctually their weekly board, whether they occupy private rooms or beds in the wards. But these conditions are, after all, not so hard, for each member of the staff agrees to this regulation when he accepts the appointment, and is at liberty to resign whenever he sees fit. The injustice is visible only in that he is not allowed some fee in cases where the parties are abundantly able to bear all expenses, even those incident to the occupancy of a private room, with all the luxuries accompanying such occupancy; or that, by the patient's coming to the hospital, he is allowed the liberty of cutting off the physician or surgeon from compensation for his important services. The explanation, no doubt, will be that, unless the attendant thinks it worth while to remain under the circumstances, he can resign his position. The explanation is a practical one, but not one in which I am able to perceive the virtue which we have a right to look for among the higher principles from which these institutions of charity spring, and by which they are maintained. The parties of whom I speak neither need nor ask for this charity, but they take it because it is provided. They would take more were it allowable: would take not only their board, but also compensation for their sufferings, and would, perhaps, only think that equitable.

The poor the physician always attends cheerfully, the only recompense being the luxury of doing good. Those able to pay, but who do not pay, he will attend with his accustomed skill, no doubt, but with a sense of the imposition practised—a feeling that lies heavily upon his heart.

The other bodies which impose upon medical men are the health boards of our cities. The impositions from this quarter are two-fold: 1st, for statistical information only; 2d, for statistical information for sanitary purposes. Both are for public use, and not for the personal advantage of the physician. The first are the birth-certificates. This is clearly an imposition, and quite intolerable, and is of no more practical importance than to ascertain the amount of business done by each physician in that branch of practice. The law does not require the parturient woman to have a physician, or even a midwife of any kind. It is left entirely to her choice. A friend of the family, who is not a skilled midwife, may attend; a licensed midwife may attend; or a physician from out of the city, or from another county, may do so. To attend in a case of this kind, under the existing law, puts the physician in a position of grave responsibility, for upon him rests the establishment of the citizenship of the new member of the community, should that ever be called in question. This is a responsibility which no physician will willingly assume. His certificate of birth may come in evidence, but the responsibility should not rest with him. The parties most interested are the parents and the next of kin, which the law ostensibly provides for, but the health board rules differently.

We would suggest that this matter be left solely to the parents or the next of kin. We would make it obligatory upon them to make the registration; at the same time we would afford them every facility for doing so. We would suggest that in cities the police-stations be made a place of registration. In the country let the town clerk be the register both of births and of deaths; and let the record of these be sent finally to the capital of the state. Let it be remembered that for performing this service, for assuming, or, more correctly, for having imposed upon him, this grave responsibility, the physician receives no compensation; but, for neglecting this duty, he is liable to pay a fine. And should he make a report, it would most likely be incomplete; the name of the child left out, perhaps, or some other particular of the description omitted.

As to statistical information of a sanitary character, information which the physician alone can furnish, we object to giving the same without adequate compensation, just as strongly as the other. Although without reflection this might seem strange, it will seem less so when we state that the reports to the sanitary bureau are made not only at a loss of time and money, but often at the sacrifice of the reputation of the physician as a faithful follower and disciple of Hippocrates, and he suffers the loss of practice consequent thereupon. It is taken for granted that when a patient approaches his physician to make known and lay bare the ills of the body, as the spiritually sick may approach his confessor concerning the ills of the soul, his ailments shall be forever shrouded from the public gaze, and concealed under the veil of eternal secrecy. But this enactment requires of him that he shall lay aside this confidential character, and for the public good assume for the time-being the *rôle* of detective, making use of his profession as a detective of the public under the garb of taking measures for the public safety. This is well illustrated by requiring the physician to report all cases of contagious disease to which he is called, to the sanitary bureau. Should the case be one of variola, and occurring in a tenement-house or a flat—in any dwelling, in fine, in which there are several families living—the board of health would, according to its usual custom, have the patient removed—transferred without ceremony to the hospital specially provided for this disease. As a rule, the separating of the patient, even under these circumstances, from family and friends, without so much as saying "by your leave," is regarded as a gross invasion of private rights. The aggrieved parties are apt to feel more acutely the wrong which they conceive has been done them, when they learn that isolation has never yet in the history of this disease prevented its spread, and that vaccination, and that alone, is the preventive. For this revelation the physician is regarded as a traitor to his professional trust, is stamped with infamy, and is not likely ever again to practise in that family. These are families, too, let it be understood, which do not belong to the ignorant classes. If there be any difference in the relative social status of parties, they are most likely higher in the scale than the legislators who have concocted and passed this arbitrary law. The writer of this has lost from his practice a score of families for thus reporting contagious diseases in accordance with the requirements of the statute, and no explanation he could offer would suffice to set the matter right. I can recall one instance where, by reporting a case of smallpox, I was thus summarily dealt with. The patient was the wife of a young gentleman and the mother of two children. Incident to this case I lost also the medical business of four other families.

These reports are intended for the public good, and regarded as measures of safety to the health of the community; but they are, nevertheless, likely to result in every case to the detriment of the practitioner who makes the report. If, then, these reports are for the public good, the public should be willing to pay for the service. It should be paid for the same as legal fees are paid; for it would seem to the writer that the services of a physician—any service that he can render, either of a private or of a public nature—should be compensated for equally with an attorney for his services, if the party is able to pay. For certainly the services of the former are quite as necessary—in many cases, indeed, more indispensably necessary—than the services of the latter. During the current six months, bills for legal fees amounting to between $50,000 and $100,000 have been sent in by lawyers, all of which will no doubt be paid from the city treasury. These bills, too, are mostly for services which are incidental—extra services, not otherwise provided for by law.

A New York M.D.

September 6, 1880.

PHYSICIAN AND PHARMACIST.

To the Editor of The Medical Record.

Sir:—With great satisfaction I have read the articles in the Record trying to define the relative position of the druggist to the physician, and *vice versa*. Good can only come from a thorough sifting of the question, Is the druggist a help to the medical profession, or is his existence a drawback, or rather, is he a necessary evil?

The physician should bear in mind that there are two kinds of pharmacists, just as there are the educated medical doctor and the common quack, and act accordingly. The business of the druggist is to keep pure and unadulterated drugs. To be able to do so it is essential that he must be conversant with the different tests to detect the daily occurring adulteration of drugs; and in fact he must possess pharmacognostic knowledge of no mean degree. Now, how many of our so-called pharmacists do come up to the mark? In glittering pharmacies and in small shops around the corner only too often are found men, excellent business men it must be admitted, but who do not possess the first rudiments of a pharmaceutical education.

As we all know, little knowledge is dangerous in a physician, but it is eminently more so in a druggist. The surgeon who, in a dangerous operation, calls his professional brother to his aid, not trusting to his own judgment alone, or the doctor who exchanges views in consultation with his colleague, sends the next minute for his chloroform, ether, or Magendie's solution to the nearest shop. He does not stop to think that he stands an even chance of getting a Magendie's solution prepared with sulphuric or salicylic acid, inasmuch as the druggist may think it all the same as long as the solution keeps in his stock-bottle; or that he gets it prepared with Croton water, because the druggist reasons Croton is cheaper than aqua destillata, and just as good. Besides, the doctor does not want expensive medicine. The next neighbor druggist, who carefully prepares his Magendie's solution with aqua bidestillata, cannot be patronized, because he charges a few cents more per ounce, and if the patient pays for so dear medicine, what will be left, then, to pay the physician's modest fee?

The medical profession would do wisely to co-operate with the skilful and educated druggists to elevate the drug business to a profession, ridding the community of the ignorant and unscrupulous, and also, by devising proper legislation, create such safeguards that the dispensing of faulty medicines would be next to an impossibility.

The dispensing of medicines by the practitioner himself will do for the homœopath, but will never be adopted to any extent by the regular profession. First. Because very few physicians will be able to find time to attend to pharmacy or will trouble themselves making wafers, pills, capsules, ointments, infusions, etc. Second. They will find it both impracticable and expensive to keep a line of goods such as fresh ergot, digitalis leaves, leeches, syrups, bromine, etc., on hand. And third. Because very few physicians will know how to select a good and reliable stock of drugs, being at the mercy of the wholesale druggist, who generally is a far greater adept in the science of adulterating drugs than the average retail druggist.

As matters stand to-day, the first thing every physician ought to do is to prepare a list of the really trustworthy and educated pharmacists in the city or town in which he resides, and to insist upon his patients only patronizing such stores as he has found worthy of confidence. By withdrawing their patronage from the bunglers, and by discontinuing to prescribe patent medicines, these incompetent stores would soon be wiped out, despite the little counter-prescribing they may indulge in. Also, by all means let the public know which pharmacies are in the habit of dispensing horse medicines, and teach the public to discriminate between the competent pharmacist and the ignorant drug-dealer, whether he be found in a modest store in a side street or in a fancifully fitted up store on Broadway.

Respectfully,
F. L., *Drug clerk.*

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 5, 1880, *to September* 11, 1880.

Moore, John, Major and Surgeon. Having relinquished the unexpired portion of his leave of absence, will report in person to the Surgeon-General, in this city. S. O. 192, A. G. O., September 9, 1880.

Taylor, M. K., Capt. and Asst. Surgeon. His assignment to duty at Fort Concho, par. 2, S. O. 161, C. S., revoked. S. O. 176, Department of Texas, August 30, 1880.

Cronkhite, H. M., Capt. and Asst. Surgeon. Having reported in person at these headquarters, is assigned to temporary duty at Fort Sidney, Neb. S. O. 83, Department of the Platte, September 7, 1880.

Moseley, E. B., Capt. and Asst. Surgeon. The leave of absence granted him from Headquarters Department of the Platte, August 17, 1880, is extended two months. S. O. 187, A. G. O., September 3, 1880.

Reed, W., Capt. and Asst. Surgeon. To proceed without delay to Creedmoor, Long Island, for temporary duty with the United States troops at that point. S. O. 153, Department of the East, September 6, 1880.

Carter, W. F., First Lieut. and Asst. Surgeon. His assignment to duty at post of San Diego, Texas, par. 2, S. O. 161, C. S., revoked. S. O. 176, C. S., Department of Texas.

By par. 2, S. O. 190, A. G. O., September 7, 1880, the following changes are made, to take effect October 1, 1880:

The following named officers are relieved from duty in the Department of the East, and will report in person to the commanding generals of the departments set opposite their respective names, for assignment to duty:

Asst. Surgeon D. G. **Caldwell**, Department of the Platte; Asst. Surgeon J. H. **Patzki**, Department of the South; Asst. Surgeon B. F. **Pope**, Department of Dakota; Asst. Surgeon W. J. **Wilson**, Department of Dakota.

Asst. Surgeon **Frank Meacham** is relieved from duty in the Department of Texas, will proceed to Boston, Mass., and upon arrival report by letter to the Surgeon-General.

Asst. Surgeon R. H. **White** will report in person to the Commanding General, Department of the West, for assignment to duty at the United States Military Academy, relieving Asst. Surgeon **Henry Lippincott**, who, when relieved, will proceed to New York city, and upon arrival report by letter to the Surgeon-General.

Asst. Surgeons M. K. **Taylor** and J. H. T. **King** are relieved from duty in the Department of Texas, will proceed to New York city, and upon arrival report by letter to the Surgeon-General.

Asst. Surgeon W. **Matthews** will report in person to the Commanding General, Department of the Missouri, for assignment to duty.

Asst. Surgeon T. A. **Cuningham** is relieved from duty in the Department of Dakota, will proceed to New York city, and upon arrival report by letter to the Surgeon-General.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending September 11, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Sept. 4, 1880.	0	7	24	6	12	46	0	0
Sept. 11, 1880.	0	15	36	2	8	49	0	0

The College of Physicians and Surgeons.—The item under the head "The New York Medical Colleges," published in our last number, needs to be corrected. The regular winter course of lectures in the College of Physicians and Surgeons begins October 1st, and continues until nearly the 1st of May, after which the examinations for the degree of doctor in medicine are to be made. The commencement exercises will be held about the middle of May.

Progress of the Registration of Physicians.—Up to September 14th somewhat over a thousand physicians had registered at the County Clerk's office. There are, probably, nearly 2,000 more to register. Until the present week registration had been very slow, the number averaging ten or twenty a day. This week the doctors are going down in a very steady stream.

There is an ingenious arrangement at the office for getting half a dollar extra out of the profession. The clerk charges a quarter of a dollar for registration, a quarter for the affidavit, and another quarter for a printed and sealed certificate that the bearer has registered. This last is not essential, and the twenty-five cents is, we believe, twice the usual fee for administering an oath.

Dr. Buchanan, who ran away to Canada while under bail, has been caught and brought back to Philadelphia.

Dr. Sutton desires us to state that the woodcuts in his lecture, recently published, were copied from the *Chicago Medical Gazette.*

Malaria Mania.—The correspondent who signs himself "H" is reminded of the rule in the Record to the effect that no communications receive notice unless accompanied by the full name of the writer. The latter is not necessarily for publication, but as a guarantee of good faith to the journal.

The Surgical Treatment of Epistaxis.—Dr. J. G. Brownlee, of Doniphan, Kansas, writes: Reading Dr. Thurston's method of treating epistaxis, in your issue of 21st inst., calls to mind a case treated by myself some six months ago. I was called to see a woman (colored), æt. 28 years. Found her bleeding profusely from the nose; said she had lost three quarts of blood before my arrival; I tried different remedies without success. I then thought of using an ordinary condum in the same manner as we use the rubber bag in uterine hemorrhage. I sent immediately to the drug store and procured a condum and a syringe; I then took a Jacques' soft rubber catheter, placed it inside the condum, and introduced it up the nose till it passed the posterior nares. With the syringe I then injected the condum with ice-water, removed the catheter, and tied the end of the condum to prevent the escape of the water. The hemorrhage was immediately arrested and the patient had no further trouble. By this simple method I claim that any physician can control any case of epistaxis without the use of Bellocq's canula, or any other device for plugging the posterior nares.

Tuberculous Laryngitis.—Where there is great pain and dysphagia the following mixture, applied with a laryngeal brush, is recommended by Dr. E. Fletcher Ingalls. The relief produced by the application of this has given more satisfaction, says Dr. Ingalls, than anything else in the course of his professional life:

℞. Morph. sulph	gr. iv.
Tannin	gr. xxx.
Acid carbol.	gr. xx.
Glycerin	℥ j.

M.

M. Verneuil, Surgeon to La Pitié Hospital, and Dr. Charcot, chief physician of the Salpêtrière, have been made officers of the Legion of Honor.

Prof. A. W. Hoffman has been appointed Rector, and Professor Schroeder, Dean of the Faculty of the University of Berlin.

The Ingles Case and Sir William Gull.—The trial of the nurse Ingles for manslaughter, to which we have previously referred, brought out the full particulars of the unfortunate occurrence. It will be remembered that the patient, a woman aged 26, was under the care of Dr. Pavy, who had diagnosed her trouble as phthisis, associated with hysterical symptoms. The lung disease was not far advanced or very active, but there was considerable weakness, and she had a slight irregular febrile movement. The hysterical symptoms consisted chiefly in a disinclination to exertion and in complaints of vague wandering pains or weakness in the limbs. The *Lancet*, in commenting on the case, inclines to believe that they were evidences, not of hysteria, but of a chronic meningeal tuberculosis. Regarding the trouble as hysterical, however, it was thought that the patient needed an occasional "rousing." On July 5th she soiled her bed, and the nurse, thinking that cleansing and discipline might be united, had her walk to the bath-room. She was kept sitting in a bath of lukewarm water most of the time for an hour and a half. Dr. Pavy saw her four or five hours later and was "struck by her altered appearance." She was feeble, cold, and shivering, and made disconnected statements as to the treatment she had received, and cried and sobbed a good deal. Bruises were found on her body. Three days later symptoms of tubercular meningitis set in, and in a fortnight more she died. Autopsy revealed evidences of old and recent tubercular meningitis, with phthisical changes in the left lung. At the trial the nurse was adjudged, upon the evidence, to have been guilty of gross and culpable misconduct, and of hastening the patient's death. The only medical evidence for the defence was given by Sir Wm. Gull. He questioned the accuracy of Dr. Pavy's diagnosis, and was not inclined to think that the bath excited the tubercular disease or hastened the death of the patient. His evidence, on the whole, threw discredit upon Dr. Pavy, and, it is said, was decidedly without the lines of professional courtesy.

Great indignation, public and private, has been caused by Sir Wm. Gull's conduct When he received his degree of LL.D. at Cambridge, etc., he was greeted with a storm of hisses. He has, as yet, offered no explanation of his conduct.

Impacted Watermelon Seeds.—Dr. J. H. Straughn, of Lexington, Mo., writes: On August 3d I removed a pint of watermelon seeds from the rectum of a patient of mine. He had eaten the melons, seeds and all; the seeds were so firmly impacted that they had to be removed under chloroform.

New York Confectionery.—The statistics of the manufacture of confectionery in this city have recently been completed. The factories were found to number 310. The report states that the wholesale trade is active and thriving, but that the smaller manufacturers, who make and retail their own goods, complain of dulness in trade and small profits. These dealers allege that most of the large manufacturers adulterate their goods largely with grape sugar, glucose, terra alba or white earth, and other injurious ingredients, and can thus afford to sell their products for a less price than the small manufacturers pay for sugar. They also say that they cannot use these adulterations in their way of manufacturing, and would not if they could; that if the authorities continue to allow the adulterated goods to be sold as sugar candies, the honest manufacturers will have to leave the business or retail the adulterated goods of the large houses. The cost of granulated sugar by the barrel is ten and one-half cents, while that of grape sugar and glucose is four cents, and of terra alba one cent. They allege that the adulteration is from fifty to seventy-five per cent. of impurities, and in gum drops much more. They say that the consumption of these adulterated candies is the cause of more sickness and death among the children of this city than all the sewer-gas and dirty streets combined.

Treatment of Asthma.—In a series of lectures on this subject, by Dr. J. B. Berkart, Assistant Physician to London City Hospital (*Brit. Med. Journ.*), the view is advocated that asthma is not due to any mysterious derangement of the nervous system, as is generally taught. On the contrary, he says, it is a matter beyond question that asthma, with few, if any exceptions, proceeds from inflammatory changes of the lungs. In the vast majority of cases it arises in childhood as the direct continuation of catarrhal pneumonia, complicating whooping-cough, measles, and typhoid fever. In adults it is the sequel of bronchitis. These diseases inflict permanent changes on the lungs or chest, and give an anatomical basis to the subsequent asthma. When asthma declares itself there are always pathological changes, The most constant among these are deformities of the spine and of the thorax of various kinds. A similar variety of changes exists in the lungs.

There may be emphysema, or induration of the parenchyma; peribronchitis, with dilated bronchi; splenizations; congestions. It is to these various conditions that treatment is to be directed; and although they are irremediable, much can be done to give relief.

Syphilis the Cause of Rickets.—Professor Parrot, physician to the Hospice des Enfants Assistés, where he has had an immense experience in children's diseases, asserts very positively that the sole cause of rickets is hereditary syphilis. The position is defended as strongly as it can be. We doubt, however, if anything can prevent its being considered untenable and absurd.

A Dental School, with an infirmary attached, has been established for the first time in Paris.

Treatment of Infantile Cholera by Quinine.—Dr. Boing reports in the *Allgemeine medicinische Central Zeitung*, fifty cases of infantile cholera, treated chiefly by quinine, and all terminating favorably. From one to four grammes (gr. xv. to ʒ j.) were given at short intervals during the twenty-four hours, to children under four years of age. The diet is composed of milk and water boiled separately. Large quantities of wine are used, and occasionally, ether. One little girl, three years old, apparently moribund, took a pint of Tokay wine in fifteen hours.

Provident Dispensaries in England.—The practicability and usefulness of provident dispensaries in provincial towns has been illustrated by the success of that at Leicester, England. There is at this place a central dispensary numbering 25,000 members, and giving an annual income of $20,000.

A Defence of Oöphorectomy.—At a recent annual meeting of the West Somerset Branch of the British Medical Association, Mr. Lawson Tait made a defence of the operation of oöphorectomy, giving some interesting facts from his experience with regard to its *unsexing the patient*. Mr. Tait said that as the diseases for which the operation was performed had already unsexed the patient as far as child-bearing was concerned, and in many cases as far as marital functions also, this argument was futile. The operation often restored the sexual capacity previously destroyed. In this the operation had had, in his experience, exactly the opposite effect attributed to it in the argument he was discussing. As to its *destroying the sexual instinct and desire* in women, Mr. Tait said that no such consequences resulted. Two of his patients operated on were married ladies in good position, and they stated that it made no difference whatever in their marital relations; all his patients stated that it made no difference in their feelings for the other sex. As to alleged *alterations of voice, appearance, abnormal growth of hair, tendency to obesity*, etc., it was denied that they occurred. The possibility of a *criminal abuse of the operation* seemed too remote for any consideration. It seems barely possible that enthusiastic oöphorectomists will, in time, advocate their operation as an aphrodisiac measure or a cure for sterility.

The Medical Night Service in Paris reports, for the second quarter of the year 1880, 1,421 visits. Of the calls, those for men were 35 per cent.; for women, 51 per cent.; for children, 13 per cent.

The Value of Vivisection.—In *Scribner's Monthly* for September Dr. H. C. Wood replies to the arguments of Dr. Leffingwell against the value of vivisection. Dr. Wood's article is a dignified and forcible one. We hope it may effectually counteract the influence of Dr. Leffingwell's ill-judged attempt to help physiology by advocating the regulation of vivisection.

Texas Fever has been discovered by Prof. James Law among some of the cattle at Oswego, N. Y.

A New Building for the Harvard Medical School.—The Corporation of Harvard University have secured the ground for a new building for the medical school. The lot contains 33,000 square feet, and is situated on the "back-bay lands," about half way between the city and the Massachusetts General Hospital. The location is said to be a very convenient one in all respects. It is hoped that the building will be finished by 1882, so that the centennial of the school can be celebrated in it.

An Ethnological Phenomenon.—Dr. Harvey L. Byrd, in the *Independent Practitioner*, states that in an experience of over thirty years he has always found a dark or blackened condition of the genitals in persons of mixed Caucasian and negro blood. In the mulatto, for example, the scrotum of the male and the vulva of the female will be found to be as dark as the darker of the two parents of the individual. The characteristic continues throughout life. It may be of some medico-legal as well as ethnological interest.

Buffalo State Asylum for the Insane.—Dr. Judson B. Andrews, of Utica, has been chosen superintendent of this asylum. "He is," says the *Buffalo Medical and Surgical Journal*, "a gentleman of extensive experience, of wide culture, and rare administrative ability." Dr. Andrews will deliver a course of lectures on nervous diseases at the Buffalo Medical College.

Dr. J. E. Michaels has succeeded Prof. Miles in the Chair of Anatomy, University of Maryland.

Resignation of Professor Klebs.—It is announced that Prof. Klebs, of the Chair of Pathological Anatomy at the University of Prague, has resigned. The cause of his so doing is the refusal of the faculty to give him larger opportunities for experimental investigation at the General Hospital.

Books Received.

Transactions of the Wisconsin State Medical Society, 1879. Milwaukee: The Sentinel Co.

Eleventh Report of the State Board of Health of Massachusetts for the six months ending June 30, 1879. Boston: Rand, Avery & Co.

Official Register of the Physicians and Midwives to whom certificates have been issued by the Illinois State Board of Health, etc. Springfield: Weber & Co.

Transactions of the State Medical Society of Arkansas at its Fifth Annual Session. Little Rock: Jas. Mitchell.

Die pneumatische Behandlung der Respirations- und Circulationskrankheiten im Anschluss an die Pneumatometrie und Spirometrie. Von Dr. L. Waldenburg. 2te Auflage. Berlin: August Hirschwald. 1880.

Jahresberichte über die Fortschritte der Anatomie und Physiologie. Von Dr. Fr. Hoffmann und Dr. G. Schwalbe. Achter Band, I. Abtheilung. Leipzig: F. C. W. Vogel. 1880.

China: Imperial Maritime Customs. II. Special Series; No. 2. Medical Reports for the Half Year ended September 30, 1879. Shanghai: Statistical Department of the Inspectorate-General. 1880.

Atlas of Skin Diseases. Part VII. By Louis A. Duhring, M.D. Philadelphia: J. B. Lippincott & Co. 1880.

Original Lectures.

TYPHOID FEVER.

A Clinical Lecture Delivered in the Amphitheatre of Bellevue Hospital, September 17, 1880.

By AUSTIN FLINT, M.D.,

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

Gentlemen:—To-day I will present to you a case which I know will interest you, and I will state at the outset that it is one of typhoid fever. It may be a question whether it is not one of typho-malarial fever. Our suspicion of the existence of this is obtained principally from the previous history of the case. At the present time we are seeing cases of typhoid and of malarial fevers combined. These two fevers may be combined in a given case in varying proportions. In the present case an inference of the coexistence of these two diseases is based rather upon the history given by the friends of the patient, and also because she has been treated for some time pretty largely with quinia.

I will first of all ask your attention to the answer of this question: "On what grounds do we conclude that this patient has typhoid fever?" The patient is a young subject, twenty-seven years of age, Annie O'D——, and was admitted to Bellevue Hospital, September 7, 1880. I will confine my remarks for the present to the above question. This patient was confined with a still-birth ten weeks before her admission. She recovered from that, and, as far as we can learn, her present illness began about three weeks before she entered the hospital; she had been confined to her bed for about two weeks previous to her admission. Now this slow development of the disease is one point in favor of typhoid fever. Typhoid develops in this slow way—so slowly that the patients cannot tell exactly when they began to be sick. Usually it is from four to ten days from the beginning of the disease before the patient is obliged to take to bed. I am in the habit of calling the time when the patient takes to bed as the time when the disease begins, as the prodromic period is likely to vary considerably. This slow development of the disease is characteristic of typhoid fever; malarial fever and other fevers do not have this long prodromic period.

Since her admission she has at times manifested an inclination to cough, and upon examination, a little bronchitis was found to exist; this also goes with typhoid fever. She complained of pain in the abdomen, and at that time her bowels appeared to be constipated. It was ascertained that she had been bleeding at the nose—epistaxis—a trifling event when taken alone, but when taken in connection with the other symptoms which are present, it is of considerable importance. Epistaxis not infrequently occurs in the early part of typhoid fever. At the time of her entrance to the hospital her temperature was found to be 103°, and on the following morning it was 104°. In the evening the temperature was the same, 104°, pulse, 100. On the next day in the morning her temperature was 103°. No medicinal treatment was entered upon. She was deaf and the deafness could not be explained as being due to the administration of quinia; so we have another symptom of typhoid fever. I have known almost complete deafness to occur in typhoid fever. On the day she entered the hospital she had had two movements of the bowels. They were loose and of a yellowish color. Of course this alone would be of little or no value, but taken in connection with other symptoms which were present in her case, it is of diagnostic value. On the 9th of September her temperature was 103° in the morning. She was now placed upon half an ounce of whiskey every four hours, together with milk as a diet. She has also had aromatic spirits of ammonia, which, though not a very potent remedy, is still a remedy of some value. The urine was examined, but nothing of importance was found. Upon examination of the abdomen externally it was found somewhat tympanitic, owing to the accumulation of gas in the intestines, and there was distinct tenderness in the iliac region upon the right side; this was diagnostic. We looked of course for the eruption, but the eruption was not present then, nor has it been present since. The absence of the eruption, however, is not very infrequent in cases of typhoid fever. The patient has been under observation since September 7th, during which time there has been a typhoid condition of the mind—a passive delirium, attended with some incoherency and an indifference concerning persons and things. She has had all along the same appearance which you see now in her physiognomy. This appearance is not as marked now as it has been in the ward, owing to the excitement of the mind of a woman upon being brought into the presence of so many gentlemen; but, after all, she manifests very little disturbance.

These, then, are the points by which we may make the diagnosis of typhoid fever in the case before you; the slowness of its development, the existence and the continuance of the fever, with not much variation between the morning and evening temperatures, not so much oscillation as is found in malarial fever, the occurrence of epistaxis early in the disease, a pulse with little fluctuation, the passive delirium, the dulness of the intellect, the existence of tympanitis, the loose passages from the bowels, and the existence of bronchitis.

The husband of this patient stated, that in the house whence she came, there exists an unpleasant condition of the sewers. We have also learned, that, in the same house, another individual has been attacked much in the same way and with apparently the same disease as the patient before you. So here are facts which seem to show the source of the disease to be defective sewerage. So much for the diagnosis and causation.

This patient has now been in the hospital ten days, and she was ill two weeks before she entered the hospital; that is, was confined to her bed, so by this estimate she is now in the twenty-fourth day of the disease. With regard to the duration of typhoid fever, I would say, that it is a self-limited fever. It has a law of duration, yet the duration varies within tolerably wide limits. If the disease be of short duration, it will last not much less than fourteen days. The longest time I have ever known it to continue is ninety days, and that was in a case in this hospital, years ago. In the case before us it is evident we have not reached the end of the fever, and it is now about the twenty-fourth day.

I will now pass to another very interesting aspect of the case, and I have so much matter that I am a little embarrassed as to how to present it to you. There has been made a record of the temperature, respiration and pulse of this patient for nearly every hour since she entered the hospital. It would be tedious to read all this, and I will therefore endeavor to abstract those facts which are of especial interest in reference to treatment. The interest of these facts has relation especially to the antipyretic treatment of typhoid fever and the importance of the application of cold to the surface of the body as an antipyretic measure. The antipyretic treatment of fevers has, in the last few years, elicited much interest, and has apparently wrought an important change in practical medicine. Fevers may be diminished in several ways. A large dose of quinia will do it in some instances, but it cannot be relied upon. Quinia has not been employed in this instance. More reliable is cold applied in the form of the cold bath, the cold sheet, or the wet pack. The cold bath was first used, but as it is a troublesome method and frequently produces a nervous shock to the patient, it has been found, on this account, desirable to use a substitute for it. I believe we can procure the same results from the cold sheet, and by that I mean the wrapping of the body in a wet cloth and sprinkling with cold water. The wet pack although an antipyretic measure, does not accomplish much through the agency of cold, as the action of the cold is continued only for a few minutes, the body being wrapped in a wet sheet and a thick, dry covering placed over all: the good effects obtained from the pack is through other means than by cold. There is still another way of applying cold to the surface of the body, which is of all means the easiest, viz., sponging the entire surface with cold water. If the sponging be practised thoroughly, it is quite effective. Where the circumstances will admit, you can denude the whole body and sponge it thoroughly, or where this is not admissible, you may unrobe a portion of the body, and after this another part, and so on until the entire surface has been sponged. The object in general terms is this: where there exists a hyperpyrexia, that is, a temperature of 103°, or over, some method of applying cold is to be employed. The patient should be carefully watched and perhaps given a little alcoholic stimulus. After the cold has been applied for a time, the patient should be placed in bed and the temperature taken, so as to determine what effect, if any, the bath has had. The temperature of the body often falls for some time after the application of cold has been suspended. It is desirable to bring the temperature down to 101° or lower. When the temperature again rises, application of the cold is again desirable, under the theoretical view, that much of the danger is in some way dependent upon the degree of the fever, and although we do not abort the fever, we abate it. I fully believe in this, and I believe it to be a very important progress in the treatment of essential fevers and certain acute inflammations. Now let us see, this is a modern treatment, and yet it is the revival of a very old treatment. Nearly a century ago, an English physician, Currie, recommended this treatment, and if you have the opportunity of reading his work I would advise you to do so, for it is a work which bears the evidence of great honesty. He claims, that in a large majority of cases, he could arrest continued fevers. He employed cold water in the form of the douche, or cold affusion. I suppose, perhaps, the apparent severity of this measure led to its becoming obsolete; but Currie anticipated what we recommend to-day. It is further interesting to note, that he devised an axillary thermometer, which was bent so as to be placed under the arm; in fact, he anticipated the modern use of the thermometer, as well as the use of cold in fevers.

Now let us see what we can find, in the history of this case, that is instructive in the employment of cold in the treatment of this disease. I would state that half an ounce of whiskey every four hours, and afterward the same quantity every three hours, and now every two hours, has been given; and that, in connection with baths and a milk diet, has constituted the treatment. She has also taken aromatic spirits of ammonia, which, however, is not a very potent remedy. I will try not to be tedious, but limit myself to points which are instructive.

Well, she had a sponge-bath September 10th. This was employed about twelve o'clock (noon), and at half-past twelve her temperature was 103¼°. An hour before the bath, at eleven o'clock, it was 103½°, a reduction of only one-fourth of a degree. At forty-five minutes past one, another sponge-bath was given, and at two o'clock her temperature was 103¾°; no result thus far. At 2.45 P.M. the temperature was 104°, and at three o'clock the patient was placed in a cold pack for an hour. At four o'clock in the afternoon, her temperature was 102½°; the reduction evidently being from the effect of the cold, because the temperature would naturally increase rather than decrease in the afternoon.

At ten o'clock on the morning of the 11th her temperature was 103¼°; a sponge-bath was given, and at 10.30, her temperature was 102°—a sudden reduction of a degree and a quarter due to the application of the sponge-bath. At one o'clock, her temperature was 102¼°, and at four o'clock her temperature was 104°. A sponge-bath was given and at 4.45 her temperature was 102°, a reduction of two degrees. At seven o'clock, her temperature was 104°. Ten minutes after seven a sponge-bath was given, and at 7.40 P.M., her temperature was 103°. At ten o'clock in the evening, her temperature was 104°; she was given a sponge-bath but its effect was not recorded.

September 12th, at 1 A.M., her temperature was 104½°. She was given a sponge-bath, and at 2.30 A.M. her temperature was 104°; practically no effect. These figures are instructive from their negative, as wall as from their positive evidence. How long the bath was continued is not stated. At three o'clock she was placed in a cold pack for an hour, and at four o'clock her temperature was 102½°. At seven o'clock her temperature was 103¼°, and then a sponge-bath was resorted to, and at eight o'clock her temperature was 102½°; it rose again however, and at ten o'clock was 103°. A sponge-bath was given and the temperature fell to 102¼°.

Now I come to the record of September 13th. At ten o'clock in the morning her temperature was 103¼°. At 10.50 A.M. it had fallen one-fourth of a degree. At one o'clock, her temperature was 104°; a sponge-bath reduced it to 103½°. At 3.45 P.M., her temperature was 105½°. At 5.30 P.M. the patient was placed in a cold pack, and at 6.30 P.M. her temperature was 103¾. At nine o'clock, her temperature was 104½°. A cold pack was given, and at ten o'clock it was 102½°. At twelve o'clock the temperature had risen and the cold pack was resorted to, but with what result is not recorded.

September 14th, 2 A.M., temperature 104°, two hours after the cold pack on the previous day. Cold pack was administered, and at six o'clock her temperature was 103°, illustrating that the decline of temperature after the application of cold does not always take place immediately.

September 15th, at midnight, her temperature was 104°. A cold pack was given about one o'clock in the morning, which reduced the temperature to 103¼°. At 4 P.M., September 15th, her temperature was 103¼°. A cold pack was administered, and at seven o'clock it was 103⅛; only a slight reduction.

September 16th, at one o'clock in the morning, her temperature was 103¼°. A bath was given, and by 6 A.M., the temperature had fallen to 102½°. On the 16th, finding her respiration somewhat quick (forty-two to the minute, while the pulse was only a hundred), I examined this patient, believing this disproportion between the heart-beats and the respiratory movements to indicate some pulmonary difficulty. I suspected pneumonia, which, however, was somewhat inconsistent with the temperature; but upon examination of the chest, I found evidences of bilateral œdema in the posterior aspect of the lungs, which was due to the gravitation of the blood into that part from the continued recumbency upon the back. The evidences of this were fine bubbling râles. This condition pointed to rather an important point in the treatment of typhoid fever, namely, not to permit the patient to rest upon the back all the time.

Now we come to the 17th of September, and that is to-day. Her temperature at two o'clock this morning was 102°; at five o'clock, 102°; at eight o'clock 102½°; and at 11.45 A.M., 103°. Thus far to-day there has been no application of cold for the reason that there has been no hyperpyrexia. The temperature has been under 103°, with the exception of 11.45 A.M., when it was at that point.

Now, gentlemen, you will see by these details that reduction of temperature does not always follow the application of the sponge-bath, but that very generally the wet pack has reduced the temperature one or two degrees. Perhaps this has not been accomplished quite as fully as we might desire, but the febrile condition has been kept down within the limits of hyperpyrexia, namely, at a temperature of about 103°. The treatment, aside from this, please bear in mind, has consisted of alcohol as a sustaining agent, with milk for diet, and except in those cases where there is a repugnance to milk, this, as an article of diet, is to be preferred.

DIABETES INSIPIDUS,

WITH ATROPHY OF OPTIC NERVE AND EXTREME ENLARGEMENT OF THE LIVER.

A Clinical Lecture delivered in Rush Medical College, Chicago.

BY NORMAN BRIDGE, M.D.,

LECTURER ON THE PRACTICE OF MEDICINE.

THIS poor woman comes to us to-day for relief from some of the more annoying of the many symptoms of disease with which she is afflicted. On seeing her I recognize an old patient. She was sent to my clinic over three years ago by Prof. E. L. Holmes, for an examination for renal disease. She had sought Prof. H. on account of loss of sight in one eye, and he had discovered atrophy of the optic nerve. On examining her urine she was found to have diabetes insipidus. She remained under treatment about a month, and then disappeared, since which I have not seen her till to-day. At her former visit she related (and confirms to-day) that she was about thirty years old, and had always had good health until her first marriage, which occurred eleven years before. Two years, or a little more, after marriage, she contracted syphilis from her husband. She bore two living children soon after marriage, and subsequently had three or four miscarriages. Her last child, born prematurely, was delivered two years before she came to the clinic. Six months after this confinement she began to void abnormally large quantities of urine. She had steadily grown worse in this particular, till at the time of her visit she declared she passed each night a large chamber-vessel twice full of urine, and as much in proportion during each day.

She had commenced to get stout as soon as the diabetes began, and had become quite obese. Her general physical appearance has not changed since her first visit here. She is short of stature, but probably weighs two hundred pounds.

Two months before she consulted Prof. Holmes she had noticed a failure in the sight of her left eye. In a few weeks the eye had become entirely blind and the optic nerve atrophied.

At that time she had a poor appetite, and her temperature was slightly above the normal. The urine had a specific gravity of 1003, and of course contained no sugar; neither did it contain albumen; the microscope revealed nothing abnormal in the specimen. There was no œdema in any part of the body.

She now says that during her absence there has been no amelioration in her condition in any way. She has continued to void enormous quantities of urine without interruption, and to be beset with the same overpowering thirst she complained of years ago. Her tongue has a dark coating, and is dry, as you see. She has anorexia, and occasional vomiting and diarrhœa. She says she has had for many months past a severe headache much of the time, and that it has occurred at all hours of the day and night. She is not certain, however, that it is worse in the night than in the daytime. She tells us of another symptom, which she says has been present a good deal of the time since we last saw her—that is, fever. Implicit reliance should never be placed on such a statement, for this is a matter in which a patient may easily be mistaken. No one is certain to be a reliable judge of whether he himself is feverish. But the thermometer, under this woman's tongue, registers 101° F., so her statement may be correct, and surely the appearance of the tongue is not surprising. The abdomen is distended with gas, and tympanites is everywhere apparent except over the region of the liver. This organ projects two inches or more below the borders of the ribs, and has a hard, regular outline; it is considerably enlarged.

A prominent feature of this case is the symptom of diabetes. Absence of emaciation, notwithstanding the presence of fever, convinces us that sugar could not be present in the urine. No patient could have such an experience with saccharine diabetes without emaciation. Diabetes insipidus, then, is the name we naturally apply to this disorder, although our patient has important morbid conditions not necessarily belonging to that disease.

The nature of diabetes insipidus is a matter of some uncertainty. It usually is not a disease of the kidneys, unless a functional disturbance of these organs is a disease of them. The polyuria is similar in character to that which attends certain temporary disturbances of the nervous system, as hysteria, sick headache, or a fit of some disturbing emotion. These disturbances we know to be frequent, evanescent, and harmless. The kidneys simply cast out from the blood a quantity of water in excess of the normal limit; the solid constituents are little or not at all increased, and no abnormal substance is present. In cases of true diabetes insipidus, on the contrary, there is usually an increase in the total amount of solids excreted, particularly of urea, but this can hardly be said to be a distinguishing feature of the disease. Diabetes mellitus is always distinguished by the presence of sugar in the urine.

There are certain conditions of disease of the kidneys that produce a slight hydruria; these are chiefly the fibrous degeneration known as contracted kidney, the amyloid degeneration, and the rare affection hydronephrosis.

The excessive thirst and polydipsia are not the cause of diabetes insipidus, but rather the consequence. The patient drinks because his blood is impoverished in its water. Some analyses of the blood of these diabetic patients have shown it to be abnormally concentrated. The frequent reproach put upon these patients, then, that they prolong the disease by their intemperate imbibition of fluids, is as unscientific as it is cruel. The quantity of urine sometimes expelled is fabulous. Ten gallons has been known to be voided by a single patient in twenty-four hours.

With the great increase in quantity there is always a corresponding lowering of the specific gravity. The urinometer often registers as low as 1001, and the specimens are pale, nearly devoid of the usual urinous odor and color and acid reaction; they contain no abnormal ingredient.

Curiously, the general health and strength of these patients is usually not much disturbed. They maintain their normal weight, eat freely—sometimes inordinately. Where the total amount of urea excreted is above the normal and no emaciation occurs, an increased appetite should not occasion surprise. What are the causative lesions of this affection?

The evidence points to the nervous system as the seat of the mischief. A number of *post-mortem* examinations have revealed gross morbid changes in different parts of the brain, but most in the medulla oblongata and the region of the fourth ventricle. In a few instances injury to the skull, and tumors in different parts of the cortex of the brain, and chronic diseases of the spinal cord, have seemed to act as causes of this disease. Of course, with such various lesions of the nerve-centres we have a various and formidable array of nervous symptoms. In a few cases cataract, and in a few atrophy of the optic nerve, have been recorded. Degeneration of the solar plexus and various diseases, chiefly cancerous, of the liver, have been known to attend diabetes insipidus, but whether as cause or coincidental condition is not known.

Long ago it was found, in experimenting upon animals, that irritation of the floor of the fourth ventricle might cause diabetes mellitus. Brown-Séquard found that irritation of a point just above and anterior to this caused diuresis without sugar. The results of these experiments seem to find a correspondence in clinical observations. Lesions have been found in cases of diabetes insipidus in the same part of the brain where in the vivisections artificial irritation induced hydruria.

Syphilis occasionally produces deposits of morbid material in the brain, chiefly in the form of gummatous tumors. Some of the cases of brain-lesion in diabetes insipidus just referred to were of this character, and the suspicion is natural that in the case before us a lesion of the same sort exists. This suspicion is strengthened by the eye-symptoms present in this case, and the neuralgia, as well as the history of her specific infection.

A growth in the brain, or a degeneration, or other morbid change capable of inducing diabetes, might easily cause other nervous symptoms. Paralysis of certain muscles might ensue if the lesion involved the origin of motor nerves supplying them, or organs of special sense might be disturbed in their function. Certain nerve-fibres of sight are known to originate near the vital spot in the brain already referred to.

Now, this patient has had, besides the symptoms of diabetes insipidus, severe headache that cannot be charged to the functional disturbances of the system that usually cause headache, or to the diabetes *per se*. She has had various neuralgic pains of other parts of the body that can hardly be induced by rheumatism, and she has atrophy of an optic nerve. She gives a history of syphilis which is confirmed in some degree by frequent miscarriages.

A specific deposit in the neighborhood of the fourth ventricle of the brain could rationally produce many or all the symptoms we have referred to. That such a deposit exists we cannot now demonstrate, but the suspicion of its existence is made plausible by the enlargement of the liver. This may be due to subacute inflammation of the liver, and the slight fever lends force to this view. But the known specific history makes it difficult to avoid the suspicion that the enlargement is due to a gummatous deposit in the organ.

Can treatment benefit this woman? It is to be remembered, so far as the diabetes insipidus is concerned, that it rarely kills anybody. Patients are often destroyed by the lesions that induce the diabetes, as this patient probably will be, but the hydruria is comparatively harmless. No treatment for the latter has been generally efficacious. The plan of withholding fluids in true diabetes insipidus is always unsuccessful, as might be expected.

Tannic acid has been used with a hope of causing an astringent action, and thereby checking the drain. Some slight success has resulted.

Ergot, which of late has been employed whenever it is desired to cause contraction of capillaries, has been tried in diabetes insipidus. As renal congestion in some guise is supposed to make the diabetes possible, this would appear to be rational practice. The experiment has been attended with good results —not a uniform success, but enough to encourage us to further use of the drug.

If our surmise of the specific nature of this woman's trouble be correct, can anything be gained by antispecific treatment? Yes, probably something; but not all, nor perhaps much. I suppose it is now concluded that antisyphilitic treatment is impotent to remove far-advanced gummatous masses, or amyloid degeneration from the body.

If such were the case, this patient should not now be in this deplorable condition; for she tells us that since her former visit to us she has taken large doses of iodide of potassium almost continuously.

So far from any improvement, she has grown worse. Nevertheless, we shall prescribe her moderate doses of this drug, with ergot; and as she has fever, we shall prescribe quinine or cinchonidia in moderate doses, with opium sufficient to control pain.

NOTE.—This case was watched as an out-patient. The liver continued to enlarge, the fever grew worse, and was maintained for two or three months. Œdema of the lower extremities came on with ascites, and large ulcers formed on the legs.

Aspiration of the abdomen was performed, and a small quantity of fluid removed. She gradually improved, the fever abated, the œdema grew less, and the ulcers healed, but the size of the liver remained the same. The diabetes decreased a very little during the fever, to return, bad as ever, when the latter ceased. The patient died eight months after the above remarks were made, and during Dr. B.'s absence from the city.

Original Communications.

CERVICAL PACHYMENINGITIS.

The Detailed Histories of Three Cases Occurring in Children.

By V. P. GIBNEY, M.D.,

OF THE HOSPITAL FOR THE RUPTURED AND CRIPPLED, NEW YORK.

(A paper read June 17, 1880, before the American Neurological Association.)

At the meeting of the Association in 1878 I presented an incomplete history of a case of cervical paraplegia, the lesion of which it was very difficult to determine. Since that time the case has progressed to recovery, and its developments have, I think, sufficiently cleared up the diagnosis to justify me in including it in the present paper.

Another case, the third of my list, has been presented incompletely in a paper on this subject before the New York Neurological Society, December 2, 1878.* This case is now a complete one, and is hence likewise embodied in this paper.

Case I.—*Apparently of traumatic origin—Intermittent torticollis during the irritative stage—A paralysis yielding promptly to treatment—Relapse of paralysis of eighteen months' duration—A stage of contracture—Spontaneous recovery with a permanent torticollis remaining.*

Jennie F——, aged seven years, came under observation first in the out-door department of the hospital, May, 1877, at which time she was wearing a plaster-of-Paris jacket and head support of the same material. This had been applied in the January preceding, when, it appears, she was first subjected to any treatment, although it is stated that for two years at least she had complained of pain in the head and cervical spine; her neck had been stiff at times, and her sleep had been disturbed by paroxysms of pain radiating about the occiput and down the spine. All these symptoms took their origin, it was believed by the parents, in a twist her neck got between the rounds of a chair.

The diagnosis of vertebral caries had been made at one of the college clinics, when the plaster-of-Paris was applied, and as the encasing was so complete when the patient first came under our own observation, this diagnosis was accepted without removing the plaster and subjecting her to an examination. This was deferred until we could make a removable apparatus. It was on June 26th that our apparatus was applied and a more careful examination instituted.

The head was in a bad position—rotated and hyperextended—yet there was no angular deformity of the spine. A note was made August 22d that the neck had straightened "like magic," and that as there was no deformity or arrest of normal movements, the diagnosis of Pott's disease must be incorrect, the more especially as there was marked tenderness on pressure over the spinous processes of the cervico-dorsal vetebræ. A fly-blister was ordered for this region, and belladonna, gr. ¼, prescribed for internal use.

In September there was a little resistance to complete rotation and extreme extension. It was thought that this would pass off soon, but in February, 1878, there was a return of the torticollis, and the area of tenderness embraced the muscles on either side of the spinal column.

March 8, 1878.—She is admitted to the hospital, a wretchedly nourished child, able, however, to stand and walk very well. The head deviates to the right, and the spinal column appears to be quite stiff, especially in the cervical and upper dorsal regions. The periosteum over the spinous processes of the tenth dorsal and the first lumbar vertebræ appears to be thickened, and this is all that can be construed into a vertebral prominence. There is no arrest of normal movements here, and there is no pain on concussion. The sterno-mastoid right side is contracted, and considerable pain accompanies any effort at overcoming this contraction. The ganglia on both sides of the neck are perceptibly enlarged, the shoulders droop forward, and efforts to restore them to normal position cause pain. Auscultation of the thorax is attended with negative results. The head support is reapplied, not, however, under the belief that any caries of the vertebræ exists. A tonic is administered.

26th.—Over the trapezii muscles there is some induration and a little discoloration of the skin, but as yet no deformity of the spine.

April 15th.—Posterior cervical region very tender, and a fly-blister is applied this evening.

April 19th.—The tenderness is unrelieved, and the infiltration is rather increased. The stiffness of the neck continues. She cannot be induced to raise the arms from the side without crying, and cervical paraplegia is imminent. Ext. ergot, fl. ʒ ss., and potass. iodid., gr. v., three times a day, ordered.

April 23d.—Slight improvement as to the pain and tenderness, yet the paresis of the upper extremities is quite marked, and the nurse reports that the patient has not been able to feed herself since the 17th.

April 24th.—While walking across the floor this morning she totters so, and is so feeble, that she is immediately placed in bed, and here she lies in one position, crying if moved. There has not been any vomiting; there is no exaggeration of the reflexes. Her pulse is 100, respiration 27, and temperature 99¼°; she is thin to emaciation. Her evening pulse is 100, and temperature 101°. Paralysis of both superior and inferior extremities is almost complete; yet there is no rectal or vesical disturbance.

April 25th, A.M.—Pulse, 90; respiration, 28; temperature normal. Doses of the ergot and the iodide doubled, making ʒ i. of the former and gr. x. of the latter three times daily.

April 26th.—Decided improvement in every particular. She moves the superior and inferior extremities quite freely, and the spinal tenderness as well as the neighboring infiltration has disappeared. The child takes milk quite freely.

April 27th.—Patient out of bed to-day. Continue the medicine in same doses.

April 29th.—To all appearances perfectly well, the movements at the neck being free and without pain. The mother, much against our will, removes the child at this date.

June 20th.—In company with Dr. Putzel, of this city, I visited the patient at her home in Elizabeth Street, and found her bolstered up in a chair, head inclining forward and to the right side. She sits motionless, and is in great dread of being moved. There is complete motor paralysis of both superior and inferior extremities. When the fingers are passively extended, they become involuntarily flexed after a few seconds, and thus remain. By tickling and by aid of a pin a moderate degree of anæsthesia of dorsal and palmar aspects of forearms and hands is recognized. There is marked atrophy of both deltoids and of other muscles about shoulder and arm, all symmetrical. Those of the forearm show very little atrophy.

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* Published in this journal January 4, 1879, p. 20.

On passively raising the arms to a right angle with the body, the child complains bitterly of pain at the shoulder. The mother says that of late passive movements have caused pain down the forearms and in the fingers. The skin is not cold subjectively or objectively. Tenderness is very marked over the spinous processes, from the second cervical vertebra to the mid-dorsal, but does not extend farther than one inch to either side of the processes. No prominence or depression can be detected in this region, and the muscles seem free of any inflammatory process. It is with much difficulty that the chin can be raised and head restored to the erect position, the child referring the pain to the nape of the neck. As soon as the support of one's hand is removed, the head falls forward to its accustomed position. No disturbance of the special senses can be discovered, no facial paralysis. The pupils are normal, and respond well to light; her mind is unimpaired. There is never any headache except an occasional frontal headache, and this follows a crying spell. Her pulse is 132, rectal temperature, 103°. There is not, nor has there been, any disturbance of bladder or rectum The bowels move naturally once every day.

The muscles of the lower extremities are not atrophied; they feel comparatively firm to one's hand, and the child can flex and extend the thighs, legs, and feet with moderate force, yet she is unable to stand. Occasionally the great toe is drawn in moderate hyperextension. The knee and the foot phenomena are very marked, the epileptoid tremor exhibiting beautifully, though tickling the soles excites very little reflex action. No anæsthesia. This relapse came on about ten days after leaving the hospital (about May 10th), and has continued to the present time.

August 24, 1878. –My friend Dr. L. Emmett Holt visits the patient for me, and finds her in essentially the same condition as is recorded in preceding note. He learns that a member of the staff of the Out-door Department of Bellevue Hospital is treating the case now with extension apparatus attached to the head, traction being made by weight and pulley. Faradism is also being employed.

November 29th.—Visited again by Dr. Holt, who finds that the head apparatus, as also the faradism, have been discontinued. For nearly three months she has had no medical attention whatever. Her general appearance is better now than it was during the summer. She eats well, and her bowels are reported as regular; no bladder disturbance as yet. The position of the head is unchanged, and the paralysis is just as great; besides, the atrophy is to all appearances greater about the arms and shoulders. The spinal tenderness is not so marked, yet there is infiltration on either side of the spinal column, giving a doughy sensation to one's fingers. Occasionally now, as the child lies quietly on the sofa, shooting pains are felt in the arms and fingers. Passive movements cause pain as before, and pressure over the brachial plexus excites pain. The inferior extremities have become more powerless, yet, if the limbs be raised from the sofa, the child can flex and extend feebly. She is not able herself to raise either limb from the sofa. Reflexes are still very marked.

February 26, 1879.—To-day I visited the child and the same condition prevails as that above described, with the following exceptions: the flexors of the forearms are markedly contracted, the flexors of the fingers likewise, especially those of the little finger. Voluntary power is slightly increased in arms and fingers, yet this is so slight that it is hard to estimate. The atrophy seems to have slowly continued, all the while symmetrically. The muscles of the forearms are hard and small; the wrists are hyperextended, and the fingers flexed, giving the typical *main-en-griffe*. Inferior extremities are rigid in tonic extension most of the time. No cerebral disturbance; no difference in the pupils; no loss of appetite. Sensation is a little impaired; still no treatment, and cleanliness is sadly neglected.

December 21, 1879.—After eleven months I make another visit, all made purely for observation. The child does not occupy the sofa, and on my enquiring as to her whereabouts the mother informs me that Jennie has gone to Sunday-school. It is a bitter cold day, and while waiting for her return I learn that early in the spring, while getting her up one day to change the clothing, it was observed that she moved the limbs, and on attempting to stand this was found possible. From this time forth power rapidly returned, and in a few weeks she was running about the house as actively as any one. She gained flesh during the summer, and power returned to the hands and arms. There has not been any pain and no signs of relapse. She has been attending school since September.

By and by she comes bounding into the room, as fine a specimen of health as one cares to see. The extremities are bared and submitted to a thorough examination. All the movements at shoulder, elbow, wrist, and finger joints are executed with perfect ease and with normal force; the biceps stands out well, as do the deltoid and other muscles. She executes various fine movements with the fingers, and the thenar and hypothenar eminences, as also the interossei, are well developed. The muscles of the inferior extremities are as strong as or stronger than those of the superior. The different tests causing her to bring into action the various groups of muscles show a perfect recovery. Measurements of the extremities fail to detect any comparative atrophy. The head is rotated a little to the left, and is slightly flexed; she can, however, rotate beyond the median line, and can hyperextend the head beyond the vertical. These movements are not at all painful, and the small degree of limitation seems due to infiltration in the cervical muscles, especially the trapezii, which appear to be enlarged. The skin, however, is normal, without extra heat, tenderness, or discoloration. There is no special tenderness at any point, no abnormal bony prominence, no lateral deviation, and the posterior wall of the pharynx feels normal to one's finger.

June 16, 1880.—I saw the case again to-day, and find the same stiffness about the neck as was observed at date of last note. A small point of tumefaction is found over the first and second cervical vertebræ. This, however, is movable and separate from the spinous processes. On the evening of the 11th she became weak in the limbs, tottering as she did on former occasions. Went to bed, and in two days was as well as ever.*

With the exception of a few applications of faradism and the use of the head extension in August, 1878, the patient has had no treatment whatever since April 29th of the same year. The parents never manifested any disposition to have anything done, and our services were not urged upon them. In reviewing the case I find many interesting features.

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* Sept. 4. 1880. examined her for Pott's disease, and can find no symptoms or sign even. Is perfectly well, save the torticollis.

1st. As an exciting cause, an apparent traumatism in October, 1874, viz., a twisting of the neck between the rounds of a chair.

2d. A long stage of two and one-half years, characterized by cervical pain and tenderness, attacks of torticollis, infiltration of the tissues about the cervical vertebræ, etc.

3d. A stage of paralysis, promptly relieved at first by ergot and iodide of potassium, then a relapse ten days after going from under treatment with complete cervical paraplegia and incomplete paraplegia, lasting at least eighteen months.

4th. A stage of contraction lasting a few months.

5th. A complete recovery from the paralysis.

The case is all the more remarkable as it has passed through the most interesting stages without medical or surgical interference.

CASE II.—*Hereditary neurotic diathesis—A first stage of six months, second stage (of paralysis) of ten months—Complete recovery from paralysis, a very slight degree of torticollis remaining.*

Agnes L——, aged four years, was brought to the out-door department of the hospital November 24, 1878. The maternal grandmother died hemiplegic at the age of forty-nine; grandfather now living and healthy. An uncle, aged twenty-five, has been two years insane, the rest of the family, mother included, are healthy. Several members of the paternal grandmother's family have died of phthisis. Family history otherwise good. This child is one of nine, two dead, one from sequelæ of measles and one from convulsions after scarlatina. The others are healthy.

The patient was in good health during the first six months of life, then had a dozen or more boils, about the size of walnuts, over the scalp. Was very sick at this time for four weeks, made a good recovery, and continued well until March, 1878, when the first symptoms of the disease for which the child now comes under treatment were developed. She fell out of bed about this time, though no contusion could be discovered. The mother is inclined to believe that this fall was the cause of all the subsequent ills. During this month (March) she had a severe cold, accompanied with what was supposed to be an ordinary stiff neck. She had much pain in the neck, and the head inclined to the left side. This deformity progressed until the head rested upon the left shoulder. The patient was under treatment for rheumatism until the beginning of November, the pain meanwhile continuing unabated. This was almost constant, referred always to the neck, and aggravated by efforts to hold the head erect and also by passive movements of the head. The pain was so severe that frequently it became intolerable, and recourse was had to opiates. There was no marked febrile or other constitutional disturbance, the general health continuing remarkably good.

About November 1st she began to lose power very gradually in the left arm, and soon afterward in the right, then in the left leg. All came on gradually, almost imperceptibly. During the last week she has been growing rapidly worse. The case finally came under the care of Dr. Madden, of Brooklyn, and he very kindly referred it to the hospital.

The examination to-day (November 24th) reveals a marked degree of torticollis on left side, the cervical muscles being quite tense; an apparent atrophy of the deltoids, though measurements are the same on both sides; a flabbiness of the muscles of the arm, and no apparent elevation of temperature. The little patient can move the wrist and the fingers feebly, raises the arms slowly from the side, getting them barely high enough to touch the head with the finger. There are responses to both currents, though a very strong faradic current is required to get a response in the deltoids. The bowels move regularly every day. Iodide of potassium, gr. iij., t.i.d., is ordered.

November 26th.—The pulse this morning is 110, respiration, 25, temperature, 97¼°. The inferior extremities are not affected to any marked extent.

November 30th.—A body brace, with a head support, is applied, and efforts to restore the head to the normal position produce great pain. Double the dose of the iodide.

December 2d.—Rests better nights, and is able to feed herself, a thing she has not been able to do for two weeks. Ordered potass. iodid., gr. x., and ergot, fluid extract, ʒ ss., three times a day.

December 18th.—With the apparatus the head is retained quite easily in position. There is no spinal deformity and no tenderness on concussion. The arm muscles appear to be undergoing atrophy, while the power in the superior extremities is in *statu quo.* As the child walks to-day it does not clear the floor well with the left foot, and the gait is certainly unsteady. The reflexes are a little exaggerated and the epileptoid tremor can be easily excited; the electrical reactions are still preserved, though somewhat diminished in the flexors of the wrist. There is incontinence of urine, or rather an inability to hold the water long after the desire is first experienced. The iodide is increased to grs. xv., and the ergot to ʒ j., t.i.d., both of which drugs have been well tolerated by the stomach.

December 28th.—A specimen of urine is examined to-day: specific gravity, 1030; no albumen; a heavy flocculent deposit after standing. The child is not brought over to-day, but her condition is reported as being about the same as when the last observation was made. The weather is so inclement, and it is so difficult for the patient to attend regularly, that the family physician, Dr. Madden, consents to conduct the treatment at home. The ergot is discontinued, the iodide is continued in same doses, and the doctor is advised by letter to employ a light descending current, with rapid interruptions, three or four times a week.

February 26, 1879.—The mother calls, bringing a letter from the doctor, who writes that faradism has been employed twice a week; that the iodide has been continued, in conjunction with cod-liver oil; that the general condition has been good, and that the pain is less.

It is learned from the mother that her home is in a malarial district, and that the child has often had chills and all the signs of malarial poisoning. Quinine in full doses is advised.

June 27, 1879.—The patient is brought over this morning, with a note from Dr. M., who writes that on two separate occasions she has taken quinine for two weeks, gr. xij. per diem, over a drachm of Squibb's fluid extract of ergot three times a day, until she had taken a half-pound; that she is now taking the ergot and the iodide in combination, and that the faradic current is still being employed once or twice a week.

The child cannot stand or walk. The head is deflected to the left and held very carefully; there is no excessive spinal tenderness, no deformity, no pain on concussion, and no pain on movements, if carefully made. As the child lies prone, if either thigh be grasped with one's hand, the most marked epileptiform tremors are produced, both inferior extremities and nates taking part in the movements. These tremors continue until the position is changed. Reflexes at knee are greatly exaggerated, and can be excited at any part of the leg or thigh by sharply striking the muscles. There is very slight voluntary power in the limbs; the feet are held extended in a straight line with the legs.

The right upper extremity possesses nearly normal power; the left arm cannot be raised to a right angle with the body and there is no power to flex the forearm, while the power to extend is very feeble. The faradic responses in all the muscles paralyzed are good. There is no comparative atrophy of the limbs, though the deltoid regions appear symmetrically atrophied. No incontinence or retention of urine now, though the bowels are habitually constipated.

The diagnosis, long since made out, of cervical pachymeningitis is fully confirmed.

July 9th.—I had my friend Dr. E. G. Janeway see the case with me to-day, Dr. Madden being also present. The doctor examined the pharynx very carefully with his finger, and was unable to satisfy himself of the existence of any vertebral caries. His diagnosis was pachymeningitis with secondary cord lesion—a transverse myelitis—either idiopathic or the result of caries, more likely the former, and his prognosis was a fair recovery. He remarked that in his experience children, as a rule, made good recoveries from such affections. The continuation of the ergot and the iodide was advised, also flying blisters to either side of the spinous processes. I was glad to hear him state that he did not approve of electricity in any form except for diagnostic purposes.

September 3d.—The mother calls this morning with the child, who walks in freely and is able to use the hands and arms with perfect ease. She has not worn any head-spring for ten days The only sign now of disease is an ability to extend the head much beyond the vertical. Rotation of the head is perfect. There is no pain or tenderness in cervical region, and no fulness or angular prominence anywhere. No evidence of bone disease either spondylitis or spondylarthrocace. Examination of superior extremities shows scarcely any loss of power, no atrophy, and a firm grasp for each hand.

As she stands erect considerable pressure downward is made upon the shoulders, and no trembling or unsteadiness in the limbs is produced. The reflexes are normal and no epileptiform spasm can be excited. She stoops normally and all the muscles of the inferior extremities feel firm and are well developed. The general health is excellent. The child has been walking for more than a month, and has only an occasional pain in the neck after fatigue.

The counter-irritation was not resorted to, but the ergot and the iodide were used alternately with quinine. Case discharged.

February 2, 1880.—Calls by request to-day. Walks and runs and uses the hands perfectly. Still no evidence of bone disease. Is the picture of health.*

It occurs to me in reviewing this case that a more classical one of cervical pachymeningitis of the hypertrophic form cannot be found.

Case III.—This case, that of a boy æt. 10½ years, has been presented at a meeting of the Neurological Society, as already mentioned, December 2, 1878, under the following heading:

"*Pachymeningitis Cervicalis Hypertrophica, Occurring in a Lad.—Cervical Paraplegia with General Paralysis almost Complete.—Case still under Observation and Progressing Favorably.*" It has not been published in detail, yet a very fair abstract was published in this journal for January 4, 1880, and is as follows:

The patient, a boy æt. 10½ years, was admitted to the Hospital for the Ruptured and Crippled, August 22, 1878. His family history was exceptionally good. He had been considered a delicate child until he was eighteen months old. From that time until one year prior to his admission to the hospital he had enjoyed fair health, and was free from any paralysis or deformity. In August, 1877, he was pushed against a pile of lumber, striking his back in the lower spinal region. It was not a severe injury; he complained very little, and his mother was unable to find any bruise. The immediate effect passed off within twenty-four hours, and nothing was complained of or observed until the January following, when he had a paroxysm of shooting pains in the back. For a period of two weeks the paroxysms were frequent, and were most severe at night. Relief then came, and he seemed perfectly well until the beginning of June, 1878. Without known provocation, he then began to bend his neck forward in walking, and complained of pain post-cervical. In the month of July considerable pain and tenderness, associated with a peculiarity in his walk, were observed, and there was also a moderate degree of skoliosis. There was also a cervico-dorsal prominence, though slight and uniform. There was no angular deformity. When admitted to the hospital in August, the following symptoms were recorded: a stooped position, the head deflected forward more than twenty degrees from the vertical bearing, a moderate dorsal skoliosis, and an unusual degree of care in walking or sitting. There was no angular prominence at any portion of the spinal column, no tenderness on pressure over the spinous processes—though that had been a prominent sign, and no tenderness on concussion.

On percussion over the posterior wall of the pharynx the patient complained of pain, yet no tumefaction or bony irregularity could be discovered in that region. Motion in the upper cervical region was normal, but was limited in the lower cervical and the upper dorsal.

No reliable signs of a spondylitis or of a spondylarthrocace could be detected. The thorax presented some rachitic changes anteriorly. A head-support was applied, and with that the deformity was nearly overcome. Cod-liver oil and a tonic were prescribed.

During the following month he did very well. In the month of October the head showed a great disposition to fall forward; the head-support became irksome; the patient slept poorly considerable of the time, and the pain and tenderness in the cervico-dorsal region increased. He took to his bed; his chin, in the lateral decubitus, rested upon the sternum. He could not be induced to change his position, and, if left undisturbed, made no complaint. He had vomiting, and the tongue was heavily coated. Ergot, iodide of potassium, and vesication were the special medicinal measures employed. On the *first* of November there was a decided improvement; but on the fourth he was again worse, and on the eleventh there was loss of power absolute in the arms, and partial in the forearm and hands, and there was almost entire loss of power in the lower extremities. The reflexes were exaggerated. Anæsthesia on posterior surface of thighs well marked. Pulse, 120; respiration, 20; temperature, 99½° F.

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* July 21, 1880.—I examined the case to-day very carefully and the cure is found to be complete. All the movements of the head normal. Possibly a little deviation of head to left, though hard to detect it.

November 14th.—Exaggeration ot reflex and abnormality of sensibility remained. The limbs frequently jerked on the slightest provocation, and assistance was required to restore them to the desired position. Urine drawn by catheter. Pulse, 112; respiration, 26; temperature, 100¾° F. No appreciable atrophy had occurred. All the muscles acted well to medium faradic current. The electro-sensibility was perceptibly diminished.

November 17th.—Has moved the right arm since yesterday. As the forearms were in pronation the hands exhibited a typical approximation to the *main-en-griffe* of Charcot and Joffroy.

November 20th.—Urine had specific gravity of 1012, faintly acid, and contained flaky deposits and phosphates. Temperature, 100½° F., the highest yet reached.

November 21st.—Decubitus dorsal, with lower extremities extended, a position he had not been able to assume since his confinement to bed. Was able to raise both arms from his side to a right angle and to extend the forearm completely.

November 25th.—Epileptiform tremors in legs were marked. He could flex the left thigh with considerable force.

November 28th.—Was able to sit up all day, and to use his left arm in feeding himself.

November 29th.—Incontinence of urine and of fæces. Electrical responses as good as they were one week ago.

December 2d.—No incontinence of either urine or fæces during last two days. Pupils for the first time dilated. Fundus of the eye normal. Sensation in the thighs returning.

The notes from that date forward are as follows:

December 4th.—Otalgia left side; reflexes still exaggerated. Has not sat up for a week. Ergot in drachm doses is renewed.

December 6th.—Bowels moving naturally once a day, and he now calls for the bed-pan.

December 8th.—Can raise the right arm from the side since yesterday. No more otalgia since the 4th.

December 15th.—Is slowly improving, though for the past day or two has complained of pain in the eyes, and no adequate cause therefor can be found on ophthalmoscopic examination.

December 24th.—A day or two ago he stood alone and took a few steps with very slight assistance.

December 27th.—While attempting to stand to-day the right limb is contracted at the knee, and is subject to marked tremor, epileptoid in character. Has considerable tenesmus.

From this date to January 9th, no special changes were observed except that one day he was in bed and up the next day walking about the ward with a chair.

January 17, 1880.—Walks very fairly, although the right foot does not clear the floor well. A tonic has been substituted for the ergot and the iodide.

January 23d.—At 7 A.M. is seized with a violent convulsion, epileptiform in character, lasting about five minutes. It is learned that he has voided no urine for twelve hours, and the bladder is found distended. Immediately after this organ has been relieved by a catheter, the patient is seized with a convulsion more violent than the former, briefer, however. His temperature before the convulsion was 99°, and immediately afterward 100°. At 9 A.M. he has a third convulsion. The urine drawn off was ℥ xvi., normal in color, alkaline in reaction, containing no albumen, as tested by heat and nitric acid, and showing nothing microscopically save a few pus and blood corpuscles. The cause of his convulsions seemed to me an overdistended bladder acting upon a highly sensitive nervous system.

January 24th.—With the exception of a soreness of the mouth and tongue from the convulsions of yesterday, he is as well as ever. Thompson's solution of phosphorus with cod-liver oil is ordered.

February 27th.—Has been gaining in power steadily, and now walks without any support, though he is quite lame in the right limb. There is still no evidence of vertebral caries.

He has been complaining for a week or more of dimness of vision with pain on reading, and on ophthalmoscopic examination to-day, I find the fundus abnormally red, vessels indistinct, margin of disk obscure, veins about normal in size, and arteries very small. In the region of the macula are two or three white glistening spots about one line in diameter.

March 2d.—Dr. C. R. Agnew makes an examination confirming the appearances I found on the 27th ult., and interpreting them as an œdematous retina about the disk. The white spots he regards as probable retinal hemorrhages. He makes out, likewise, with the ophthalmoscope, a hypermetropia of $\frac{1}{7}$ in right eye and $\frac{1}{6}$ in left. The diagnosis is neuro-retinitis descendens.

On the day before, Dr. Webster made an examination, finding the same lesions and the same degree of hypermetropia as Dr. Agnew finds to-day. It is thought very remarkable that this eye-lesion should have followed at such a distance the meningeal lesion. Dr. Agnew orders mercurial inunctions.

His eye symptoms slowly disappeared, and from April 30th to the present time his old lateral curvature has been treated by Dr. Ap. M. Vance of our hospital staff with the paper-jacket and rubber band.* The curve, which was a *rigid one*, has decreased from 1½ to ¾ of an inch.

November 4th.—A thorough examination is made preparatory to his discharge, and all muscles of the extremities are found to have recovered normal power with the exception of the flexors of the right thigh. These are appreciably atrophied, and thus his awkwardness of gait is readily explained. Drs. Agnew and Webster make an ophthalmoscopic examination and find R. E. V. $\frac{20}{40}$; hypermetropia $\frac{1}{9}$; L. E. V. $\frac{20}{70}$, or $\frac{20}{60}$ with × $\frac{1}{9}$. Bottom of disks can be seen quite distinctly; nerve, on the whole, a little pale in both eyes, and arteries a little small. The neuritis has disappeared.

February 18, 1880.—A stone was found in the urethra, and with considerable difficulty extracted by means of forceps in the hands of Dr. W. T. Bull, at the Chambers Street Hospital. He made a good recovery from this, and continued well up to present writing. The formation of the stone is easily explained when we remember his paralysis of the bladder and the cystitis.†

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* For description of Dr. Vance's brace, see MEDICAL RECORD, June 21, 1879, p. 595.

† August 28, 1880.—I gave the boy a very thorough examination, and could find no symptoms or signs of bone disease. The pharynx was carefully explored: there was no anchylosis in cervical region; no signs of abscess; no torticollis even. The paralysis of the thigh flexors still exists.

In conclusion, if I have diagnosticated these cases correctly, it will be seen that an absolutely perfect recovery does not take place, and, so far as my reading goes, I believe authorities do not claim this. The results in these cases are very good, and enable one to make a good prognosis. In all three the diagnosis of Pott's disease was made and insisted upon by several competent surgeons. The remarks I made on the diagnosis in my first paper apply here, and I shall modify a little the second paragraph of the following quotation. There is such a disease as a non-deforming caries of the vertebræ. I have specimens removed post-mortem; yet in these there is some anchylosis, some welding together, or fusion as it were. I can conceive of a point of bone disease in the inner tables of the vertebræ exciting disease of the dura, yet I know of no cases demonstrated by post-mortem, and theories here are unsatisfactory.

I close this article by quoting from the number of this journal, from which a quotation has already been made:

1. Was it a spondylitis? The absence of any exostotic growths, either on the bodies of the vertebræ anteriorly, or on the processes, the history of the disease, and the kind of paralysis, in my opinion, excluded spondylitis.

2. Was it a spondylarthrocace, or Pott's disease of the spine? The history of a fall without evidence of external violence would suggest very forcibly vertebral disease. Still, within twenty-four hours all tenderness and immediate effects of the fall had subsided, and he was perfectly well and free from deformity for *three months.* The fall was charitably considered as an improbable factor in the etiology of the disease present. It was to be remembered that the first real signs of the disease began in January, 1878, when colds were very prevalent, and, in the absence of any known exciting cause, it was assumed on circumstantial evidence that he contracted a cold, and that the effects of the cold were confined to the cervical spine. The shooting pains about the head and neck were paroxysmal and severe; they lasted about two weeks, and the patient was relieved. Then for five months he seemed perfectly well. Vertebral caries does not act in that manner.

Again, when the torticollis appeared, the deflection of the head was forward, and not backward, as was the rule in torticollis from vertebral disease. Since he had been under our own observation, over three months, tenderness on pressure over the spinous processes had been nearly continuous. As a *rule,* to which there were but few exceptions, that sign was not present in spinal caries. Furthermore, extension and support of the head were intolerable. On those grounds Pott's disease was excluded.

3. Was it a case of pachymeningitis cervicalis hypertrophica? From the symptomatology as described by Charcot and Joffroy, from the exclusion of the two diseases mentioned, and from the kind of paralysis—that which belonged to spinal compression, the diagnosis was reached.

* * *

An Epidemic of Dengue is reported to exist at Charleston, S. C. There are said to be some cases of the disease at New Orleans.

The Summer Home of the Children's Aid Society, at Bath, has been closed for the season. A total of 347 children have enjoyed its benefits for periods varying from a day to a week, during the past summer.

A CASE OF HYDATIDS OF THE BLADDER,

With Report of Autopsy.

By F. C. AINSWORTH, M.D.,

ASSISTANT SURGEON, U. S. A.

The notes of the following case were taken several years ago, and were not at the time intended for publication; but as the literature of echinococcous disease, so far as I have had access to it, furnishes no similar account, and as the case presents several points of interest other than its singularity, the following record may be deemed worthy of publication.

A correct diagnosis of the disease was, of course, never made during the short time the patient was under observation, for he presented no symptoms which hinted at hydatids, either of the bladder or any other organ. No shreds of membrane had ever been voided per urethram. The most careful examination of the urine failed to reveal scolices, hooklets, or any abnormal ingredient other than those pertaining to chronic cystitis. An aspiratory puncture of the tumor in the rectum was determined upon, and might have revealed something; but a general peritonitis, which eventually proved fatal, arising, put all such exploration out of the question.

Max Sterns, musician, band 21st Infantry, native of Poland, age unknown, but thought to be about forty, was admitted into the Post Hospital, Fort Vancouver, in the latter part of August, 1875, complaining of retention of urine. The following history was elicited from him:

Had been perfectly well up to three years ago, when on an occasion he was forced to retain his urine for several hours, in spite of a pressing desire to void it, and when an opportunity to relieve himself came, he was unable to do so for some time, but at last succeeded, though painfully and with great effort, by pressing on the right side of the abdomen. The next day he urinated without difficulty, and had no further trouble until about six months afterward, when, under similar circumstances, he found himself in a like predicament; but on this occasion, failing to empty the bladder himself, he applied to a doctor, who passed a catheter on him without difficulty, and relieved him. From this time the attacks of retention became more frequent, occurring every three or four weeks. Sometimes he could start the stream himself by pressing, as above stated, on the right side of the abdomen, but more frequently was obliged to visit a doctor. In the intervals between the attacks the urine flowed readily and in a full-sized stream. This state of things continued for about a year, during which time the catheter was used on him by several surgeons, both civil and military, and always passed easily and without pain; but at last an attempt to pass a solid instrument during one of the attacks was attended with difficulty. The doctor, however, persisted, and after about an hour succeeded, but only by using a great deal of force, and causing him intense pain. Profuse urethral hemorrhage followed, and continued for three days. Since that time his stream of urine has steadily diminished in size, until now it is very small, and five or ten minutes are required for him to empty his bladder. He can never micturate without pressing on the right side of the abdomen. Complains of a constant pain, referred to the suprapubic and perineal region, partially relieved by evacuation of the bladder, aggravated by retention of urine for three or four hours, and rendered unendurable in six or seven. He also suffers excruciating pain in the rectum during defecation, and says that at all times he has a sensation as of a foreign body filling up the lower bowel. Denies ever having had gonorrhœa or any other disease except those incident to childhood.

On exploring the urethra, a stricture was found at about the bulbo-membranous juncture, which would admit nothing larger than a No. 4 soft instrument. A flexible catheter of this size was passed, and about a pint of urine drawn. Morphia was administered hypodermically, and the patient put to bed. The following day, after a warm bath and another hypodermic, a more careful examination was made, with the following result:

Over the whole of the lower portion of the abdomen pressure caused considerable pain. For about three inches above the pubis perfect flatness on percussion existed, although the bladder had just been emptied. Palpation in that region gave the patient so much pain that I was forced to desist. Gentle pressure revealed nothing abnormal. Introducing the finger into the rectum I found that passage apparently entirely blocked up by a tumor, situated in the region of the prostate. Its boundaries could not be ascertained, for the finger could not be passed around it in any direction. It was perfectly smooth and hard to the touch, and no sense of fluctuation could be detected in it. Pressing it caused pain similar to that felt during defecation. Prolonged but gentle attempts were made with all the instruments at my command to enter the bladder, but nothing would pass larger than a No. 4 elastic catheter, introduced with the stylet, which was slightly withdrawn as the tip of the catheter reached the obstruction, just the manœuvre which is so commonly resorted to in cases of enlarged prostate, and the only one in this instance which was successful. No solid instrument could be passed, and consequently no exploration of the bladder could be made. On the fourth day after his admission to the hospital symptoms of acute general peritonitis showed themselves. This complication proved fatal, the patient dying on September 12th.

The autopsy was made September 12, 1875, seven hours after death. Rigor mortis well marked. Body not much emaciated. The integument in the hypochondriac and epigastric regions was covered with numerous cicatrices, the result of repeated wet cuppings during some previous illness, no history of which had been obtained from him during his treatment in hospital. On opening the abdominal cavity, a small amount of straw-colored serum escaped. The intestines were covered here and there with patches of recent lymph, flakes of which were floating in the fluid which partially filled the cavity. The peritoneum was inflamed throughout its whole extent, but the roughening of its surface, dilation and rupture of subserous capillaries, exudation of lymph, and other changes characteristic of this morbid process, were far more marked in the inferior than in the superior abdominal region. The bladder was distended, reaching about two inches above the symphisis, thickly covered with fresh lymph, and firmly bound down on all sides by old adhesions. The inflammatory process had been more extensive and evidently of longer duration on the right side of the organ than the left, for the pelvic cellular tissue was involved to a greater degree in the former situation than in the latter, infiltrated and swollen, so as to displace the bladder somewhat to the left. The central portion of the mass was disintegrated and purulent, two or three ounces of thick pus escaping as the adhesions were broken up for the purpose of removing the bladder. The bladder, when grasped with the hand *in situ*, had the feel of a hard, solid, immovable tumor. When opened it was found to be completely filled with cysts, about sixty in number, varying in size from a pin's head to a large orange. None of them were attached to the walls of the organ, but were lying free in its cavity. The cysts themselves were all single, that is, none of the smaller were contained within the larger, and consisted of a firm, transparent, colorless membrane, containing a clear, yellowish watery fluid. In addition, there were found two ruptured sacs, evidently the collapsed mother-bladders of the colony, much larger and thicker than the unruptured vesicles, grayish white in color, translucent, and of a gelatinous consistency. Their external surfaces were perfectly smooth, bearing no evidence at any point of having been attached to the bladder. The bladder-walls were very much thickened, and had a hard, inelastic, leathery feel. At the fundus the tissue was so much indurated as to cut like cartilage.

In this locality the normal elements of the middle coat were hardly discernible, their place being occupied by a dense fibrous layer. In the body and neck the muscular layer was greatly hypertrophied. The mucous membrane was thickened, raised into prominent folds, and covered with slimy, muco-purulent matter. No ulcerated points were discovered. The bas-fond was deeply excavated, forming a dilatation, the floor of which was much below the level of the vesical outlet and encroached upon the rectum beneath and the urethra anteriorly.

The urethra was healthy down to the bulbo-membranous junction. At this point a stricture existed, which would, however, admit a No. 8 sound without difficulty after the bladder had been emptied of its contents. The prostate and rectum were normal. The middle lobe of the right lung contained, embedded in its anterior portion, a tumor a little larger than a walnut, consisting of a firm fibrous capsule of a yellowish white color, intimately connected on all sides with the lung-tissue, and containing several cysts, varying in size from a pea to a marble. In appearance they were precisely like the smaller cysts found in the bladder. The lower lobe of the lung was healthy. The upper lobe contained at its apex a few cheesy and calcareous nodules and miliary tubercles scattered more or less throughout it. Right lung sound. Heart and great vessels normal. The lower extremity of the spleen was the seat of a growth about the size of a small orange, similar in its external appearance to the one found in the lung. Like it, it consisted of a firm fibrous capsule embedded in the substance of the organ. Its contents, however, consisted of a caseous matter very much like marrow in color and consistence, and a single large collapsed cyst, folded up and compressed within the cheesy mass. The cavity of the cyst was empty. In size it was about equal, when unfolded, to one of the large ruptured mother-bladders of the colony found in the bladder. Its wall was a little thicker than the above, harder, colorless, and perfectly transparent, resembling exactly the tissue of the cornea. The liver was perfectly healthy, the most careful examination failing to reveal any unnatural appearance. The stomach, intestines, and left kidney were sound; the right was somewhat congested. Right ureter, slightly dilated; left, normal. No enlargement of the glandular apparatus of the thorax, abdomen, or pelvis. The brain was not examined.

Whipple Barracks, A. T., June 21, 1880.

Progress of Medical Science.

On Duboisia in the Treatment of Exophthalmic Goitre.—Mr. Dujardin-Beaumetz has employed duboisia in place of atropia in hypodermic injections in the treatment of exophthalmic goitre. In the two cases in which he has tried it, he has obtained a marked diminution of the palpitations and the vascular pulsations—that is to say, a decided amelioration. This, moreover, is the only result that has yet been secured by any of the methods of treatment recommended for this affection. The effects of the injections were decidedly cumulative, although the doses used were very small—from a quarter to a half a milligramme; distinct symptoms of poisoning, analogous to those produced by atropine, were observed after a few days. Hence, it was found necessary to intermit the injections for several days after every week of treatment, and after a time to discontinue them altogether. The solution used was one centigramme of the neutral sulphate of duboisia to twenty grammes of aqua laurocerasi.—*Le Courrier médical*, July 24, 1880.

Infantile Constipation.—At a clinical lecture held at the College of Physicians and Surgeons, New York, Prof. Jacobi called attention to a form of infantile constipation not mentioned in the books. In this affection the color of the fæces is about normal, but they are deficient in moisture. They are dry and somewhat friable. The passages of young babies are never normally like this. There is evidently here a lack of moisture which may possibly arise from an insufficient secretion on the part of the intestinal glands. It may, however, arise from other causes, one of which is a peculiar anatomical condition occasionally existing in the bowels of the new-born or young infants. A few anatomists have recognized that the intestinal tract is different in the young from what it is in the old. The colon is very much larger and longer, in proportion, in the child than in the adult, and this peculiar condition often remains up to the age of five or six years. The child may have two or even three sigmoid flexures, or the real sigmoid flexure may not be found on the left side, but on the right. In the passages of the young, where the peristaltic action of the bowel is normal and the colon of the usual proportion, the fæces will not be dried out; but where the flexure is long, or there are two or three of them, the fæces will dry out. In the fœtus and the new-born the secretions of the intestines are very copious. There is a great deal of mucus and epithelium, which may become very dry and compressed—to such an amount, indeed, as to constitute actual obstruction. Dr. Jacobi stated that he has met with a number of cases in children, that could not be explained in any other way than by the supposition that there were two or three sigmoid flexures, one on top of the other, and impeding the free passage of the fæces. In the treatment of a case where such a state of things is suspected, the diet must be regulated so that there may be an abundance of water in the food. In the choice of food, oatmeal is to be given in preference to tapioca, rice, or even barley. Purgatives ought not to be given except in urgent cases. Injections are very useful, and cannot be dispensed with. Another cause of constipation like this may be that there is an insufficient physiological action of the muscular layer of the intestine. This may occur in feeble children. In another class of children this constipation does not appear until from six months to one year after birth, and then, from being perfectly regular, they become obstinately constipated. In this class the muscles of voluntary motion, as well as those of the intestine, become diminished in power; they are rachitic children.—*Med. and Surg. Reporter*, July 10, 1880.

Dermoid Tumors of the Cornea.—Dr. John B. Roberts read a paper on dermoid tumors of the cornea, before the Philadelphia County Medical Society, June 9, 1880, and presented specimens taken from a young bullock. The pathology of such growths is the same in the human subject. Each cornea was partially covered by a circular, somewhat elevated growth, closely studded with reddish hairs, such as were seen upon the surface of the animal. In one eye the tumor involved the sclerotic region, and then invaded about one-third of the cornea, while in the other eye the growth seemed to be limited almost exclusively to the corneal tissue, leaving about one-fourth of its surface free from involvement. The tumors were about the size of a ten cent piece, and in one the continuity of the conjunctiva of the sclerotic with the surface of the tumor was easily seen. Dermoid tumors of the cornea in man are usually congenital, and are more prone to extend from the conjunctiva and sclerotic to the surface of the cornea than to be limited to the cornea itself. These tumors are seldom rapid in growth, are non-malignant, and may remain almost the same for years. The treatment of these cases in the human subject depends on the extent of cornea involved. If superficial, the growth may be pared off, as in pterygium. The cornea is frequently, however, involved to a considerable depth, and the anterior chamber may be opened in the attempt. In such cases, moreover, operation will be of little value, even if there remain sufficient corneal tissue to prevent perforation, because corneal opacity will remain at the cicatrix.—*Phila. Medical Times* July 31, 1880.

Case of Nerve-splitting.—Surgeon-Major K. McLeod reports a case of nerve-splitting in *Brain*, April, 1880. The patient had wasting of the left forearm and hand, from which he had suffered for eight years. The little finger and ulnar side of the left hand gradually grew numb, the muscles of the hand wasted, and the fingers became permanently bent. Upon examination it was discovered that the ulnar nerve had undergone thickening. An abscess subsequently formed above the elbow, on the inner side, which discharged spontaneously, and left a sinus which finally closed. Four years afterward the sinus reopened, without, apparently, any fresh accession of inflammation. At this time the ulnar nerve was found to be very much thickened behind and above the elbow, to the extent of about five inches, hard and cartilaginous to the feel, as thick as the middle finger, and painful on manipulation. There was an orifice of a sinus over the course of the nerve, situated about four inches above the inner condyle of the humerus. Operation: a director was passed into the sinus, and it was found that it passed into the interior of the nerve, as far as the level of the inner condyle. After slitting up the sinus, a long linear incision was made which resulted in exposing the nerve for a space of four inches. It was hollowed out by an abscess, of which its thickened texture constituted the wall. This cavity was filled with curdy material. The cavity was thoroughly emptied, and the nerve was split in two from before backward. The continuation of the nerve behind the condyle was somewhat thickened, and contained a few cells full of yellow curdy material. The condition for which the operation was resorted to is a very rare one.

Poisoning by Oil of Chenopodium. — In the *American Journal of Otology*, July, 1880, Dr. Alfred North, of Waterbury, Ct., reports two cases of poisoning by the oil of wormseed. They are interesting on account of the rarity of recorded instances of poisoning by this drug, of the peculiar interest which attaches to the symptoms referable to the auditory apparatus, and of the valuable lesson of caution taught by them with regard to the use of this familiar drug, which seems to possess toxic properties with which it is not commonly credited. Patient, male, æt. 12; was treated by a physician for intestinal worms, and ordered to take a "large overflowing teaspoonful" of the following mixture: ℞. Ol. chenopodii, ʒ j.; ol. terebinth., ʒ j.; ext. spigelii, ʒ iij. M. Sig. dose, ʒ j. Three other children in the same family received smaller doses of this same mixture. The next morning the patient was found breathing heavily, and was with some difficulty aroused. There seemed to be partial loss of co-ordination, his gait was unsteady, and he complained of severe frontal headache and of loud ringing in the ears. Deafness was very marked. Vision normal. He appeared less intelligent than usual. Four days after taking the medicine all the symptoms became aggravated, and the patient remained in bed. Dr. North was then called in, and found the patient entirely unconscious, and learned that he had slept heavily all day. Temperature, 100° F.; pulse, 58, weak and compressible; respiration normal, breathing not stertorous; pupils widely dilated, sluggish, responding only faintly to light. Had vomited on taking food during the day. Patient remained for five days in a state of stupor, and had constant hallucinations. Under treatment he had shown slow but steady improvement, all symptoms abating somewhat in severity; tinnitus aurium little less; frontal headache continued.

Case II.—On the same evening the sister of the previous patient, aged ten years, received a "good teaspoonful" of the mixture. The child was awakened toward morning by extreme nausea, followed by profuse vomiting. She also suffered from inability to walk and adjust her clothing, marked deafness, distressing tinnitus aurium, and severe frontal headache. In short, she was afflicted with all the symptoms which characterized Case I. up to the stage of stupor, only in a less degree. She was never compelled to take to her bed, but improved steadily, though slowly, the deafness and headache being very persistent. Two more children, viz., a girl of seven years and a boy of four, also received a dose. The former took a teaspoonful, vomiting shortly afterward, without any additional symptoms, with the exception of slight nausea. It will be noticed that the symptoms resemble somewhat closely those produced by santonin, its therapeutic ally. They differ, however, in the important particular that the eyes were wholly unaffected by the discolored vision uniformly produced by the latter drug, while the hearing, which is unaffected by santonin, was the only sense perceptibly affected by chenopodium. As to the amount taken in these cases, there is also an element of uncertainty. Had the drachm dose been given as ordered, the patient would have received forty minims of the oil, provided the *medicine had been well shaken*, but on standing the spigelia is almost immediately separated from the mixture, and settles to the bottom. In this condition a drachm of the supernatant fluid would give fifty-three minims of chenopodium. Moreover, on measuring the amount left in the bottle, it was found that ʒ vj. had disappeared from the original ʒ xij. mixture. The mother asserted that none was thrown away, and none given to any one else. Therefore ʒ vj. were distributed among the four children. The youngest is said to have received no more than ʒ ss. As no poisoning ensued, this is probably true. This would leave ʒ vss. to be divided among the three remaining children. Of this, to judge from the effect, the eldest must have received the lion's share, probably getting fully a drachm of the pure oil.

The Anæsthetic Effect of Cold upon the Cornea as a Therapeutic Measure.—Dr. Henry S. Oppenheimer read a paper on the above-named subject before the New York Ophthalmological Society, May 10, 1880. From the number of cases recorded (*Medical Journal*, July, 1880), it would seem that the remedy is a valuable one in most of the cases where disease or injury of the cornea is the cause of pain and photophobia, with or without blepharospasm. Twenty-five cases have so far been collected. Of these, four were interstitial, two diffuse (non-interstitial), and ten phlyctenular keratitis. Five were cases of panus, one was inflamed staphyloma, and three were superficial wounds of the cornea from scratching with different substances. The directions usually given were to drop the water, as cold as it could be got from melting ice, into the eye, while the patient himself, or the attendant, held the eye wide open. This was kept up for a few minutes every half-hour or hour. As the eye improved, these intervals were lengthened. An eye-dropper or sponge was used to drop the water from. The mode of action of the cold seems to be probably a double one. The lessening of the photophobia may be due to temporary paralysis of the more superficial plexuses of corneal nerves, while the subsidence of the injection may be accounted for through its astringent effect. It is also possible that the antiseptic effect of cold may have a slight influence. The cold is very badly borne in suppuration of the cornea, as was found in one case experimented on, in which one or more phlyctenulæ had broken down, and thus left an ulcerating surface on the cornea.

Extra Puerperal Mastitis caused by Psora.—Dr. Karst, of Kreuznach, reports a case of mastitis apparently due to the presence of the itch-insect about the mamma. He was called to see a woman with a mammary abscess, which he incised. In renewing the dressing he was told by the patient that for several weeks past she had greatly suffered from intolerable itching all over her body, and that she had attempted to relieve this irksome condition by continual scratching. A careful examination now revealed indications of the presence of scabies and excoriations, the latter especially numerous around the nipple. These excoriations had proved a source of infection, leading to suppuration. A similar case, occurring in the practice of a colleague, is also mentioned.—*Berlin. klin. Woch.*, August 9, 1880.

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Hay Fever Sufferers.—At a recent meeting of sufferers from hay fever at Beach Haven, N. J., a resolution was passed "that this congress endorses the opinion expressed at a meeting of the United States Hay Fever Association" that the remedy for the complaint is the ocean.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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GEORGE F. SHRADY, A.M., M.D., Editor.

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PRELIMINARY EXAMINATIONS AND THE GENERAL PRACTITIONER.

SEVERAL years ago Sir William Gull testified before a parliamentary committee that there should be such preliminary examinations established as would cut off thirty-three per cent. of the candidates for the medical profession in Great Britain. In reply to a further inquiry he expressed the greatest confidence that a sufficient number of able and intellectual men would still enter the profession, for he believed that as soon as it was raised to a higher intellectual distinction more men would come into it; and the better the men who were selected at the beginning the fewer failures there would be as the examinations proceeded. Through the efforts especially of the General Medical Council and the medical journals some improvement has been made in English medical schools. That a satisfactory condition has not been reached, however, is shown by the fact that, at a recent meeting of the Medical Council, a whole week was spent in debate upon the matter.

When so much attention is paid to such a question in England, where preliminary education at least exists, it may well be worth while to consider it here, where we have hardly its semblance. It is a little startling to learn that two of the medical colleges of New York city, for instance—two of the largest colleges in the country—require no preliminary examinations whatever. The annual catalogues of most of the other colleges reveal a similar state of affairs or announce preliminary requirements unworthy of a reputable boarding-school.

It is becoming the fashion now for medical colleges to advertise themselves by announcing long courses with rigid and frequent examinations. This is a very happy condition of affairs and indicates some progress, but the profession should not be too much impressed by the glitter. Annual announcements can be made to present a very attractive appearance. Alluring rhetoric and beautiful topography, however, do not constitute educational reform. We have before us the elegantly printed statements of requisites for the matriculation examination in a very reputable western college. There are required: (*a*), English composition; (*b*) arithmetic, including decimals and vulgar fractions, and algebra, including simple equations; (*c*) elements of physics. The examination in the above requisites is not called for if the applicant has any literary or scientific degree or a certificate from any high school or academy or medical school. And, finally, if the student fails in the trying ordeal, if he mixes up his tenses or cannot point off his decimals or balance his equations, he can still matriculate, on condition that he make up the deficiency during his first year. It is evident that such a test as this of fitness for a learned profession amounts to very little.

The test is small, even when compared with the English requisites. Thus, the recomendations of the General Medical Council of Great Britain include, besides the three things given above: English history, modern geography, Latin, geometry, some modern language, botany, or elementary chemistry.

We wish then to emphasize these facts, that American medical colleges require, as a rule, no preliminary examinations; that in this respect they are far behind the colleges of other nations; and finally, that preliminary examinations are urgently needed both to sift the candidates for medical degrees and to lighten the work of the matriculated student and his teacher.

The deficiencies and the needs to which we have thus referred are well enough known to educators, and are perhaps trite enough facts to every one. We do not propose to lecture the medical colleges just now upon their sins. It is not these institutions alone that are to blame. There are duties in the matter which belong to the general practitioner as well as to the colleges. It is he who in most cases advises young men in regard to studying medicine. It is in his office that the study begins, and it is he who sends off the student in his various stages of immaturity to the medical schools. General practitioners now have the custom of taking every student into the office who applies, no matter what his mental capacity or educational training. This should not be so. They have a weightier influence than any one else in deciding who shall study medicine. This responsibility should be understood. The barriers to the study and practice of medicine in America are inconceivably slight. All kinds of callow youths—and we may add maidens—can step in. The colleges are doing something to make the medical education what it should be, but their efforts are crippled by competition or altogether paralyzed by selfishness and ambition. It is to the individual members of the medical profession, therefore, that we must look for help. Let country and city practitioners be a little careful of the youths they take into their offices. Let them remember that the good repute and high standing of the profession will be injured by encouraging the half-educated to become physicians. The satisfying of a petty ambition to have office students will counterbalance but poorly the injury which the influx of physicians without education or mental training can accomplish. It may not be necessary that every medical student should be a bachelor of arts ; but it is necessary that he should have a thorough knowledge of certain elementary branches, and that he should know how to study and how to reason. Let the general practitioner see that his pupils have some qualifications of this kind before he sets them at work on the bones.

THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

The editor of the *British Medical Journal*, commenting upon the recent meeting of the British Medical Association, states that from beginning to end it was an uninterrupted and brilliant success. There were eight hundred members and guests present, "and if it had been possible," says the writer, "to realize by anticipation how important, interesting, and pleasing the occasion would be, the numbers might have been trebled." The *Lancet* takes a less roseate view. Its correspondent writes that on the whole it would not appear that the British Medical Association is a favorable field for the prosecution of any serious study. So long, it says, as there is eloquence, or prettiness, or great novelty, the attendance is good, but apart from these it immediately languishes. As an illustration of this, the Pathological Section on one day had not enough audience to make a quorum ; on the next day the section was packed at the expense of every other, by members anxious to hear Sir James Paget's address. The meeting, the critic continued, though not marked by any scientific work of very unusual moment,'was thoroughly enjoyed by all present.

We present in another column a report of some of the work done by the Association. The addresses delivered were all of a high order; and if we may judge by the comment and attention which these addresses received, they represent very conspicuously the scientific work of the meeting. The Sectional work embraced, besides the papers, several instructive debates, such as that upon antisepticism, the germ-theory, urethrotomy, etc. ; but the attendance at the meetings was not large, nor were the papers very numerous.

Much labor was expended upon the addresses, however. These were, without exception, thoughtful, instructive, and finished efforts, though varying much in originality and practical value. They held the attention of large audiences.

The social enjoyments of the occasion seem to have far outshone those of any previous meeting, A reception, a dinner, an afternoon garden-party, an evening conversazione, which was really a lawn party on a scale of oriental magnificence in the matter of Chinese lanterns ; and finally, various excursions into the surrounding country, made up almost a giddy whirl of amusements.

The conferring by the universities of the honorary degrees of LL.D. upon twelve leading physicians and surgeons is a gratifying event to the whole profession, as well as to those individuals who were thus specially honored.

It would be natural to compare this meeting of the British Medical Association with that which took place in this city last June, and it will have to be confessed that we are very far behind our British brethren in efficiency of organization and careful scientific work, as well as in brilliancy of oratory. We had some papers that could not be surpassed, but we had a deluge of mediocre efforts. There was about our meeting evidence of a vast deal of mental activity, but compared with foreign work it was crude and immature.

UNNECESSARY VIOLATION OF HYGIENIC LAWS.

The city of Providence, albeit possessing a health officer of ability, has seen fit, during the hot weather of August and September, to dredge out its river, which extends directly into the heart of the city, and serves largely as an outlet for the sewers of the adjoining sections. For weeks past the stench in the vicinity has been sickening. It need cause no surprise to find a decided increase in the typo-malarial diseases of the city this fall, resulting from such stupid and wholly unnecessary violation of hygienic laws.

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On the Treatment of Jaundice with Large Doses of Ipecac.—Dr. Henry Cook, of Bombay, writes a suggestive article in *The Practitioner* on the above subject. Jaundice he divides, as usual, into the hepatogenous and hæmatogenous. The more frequent cause of the former variety is, of course, a catarrh of the gall-ducts; but, in addition, there is often a form of hepatogenous jaundice, in India, at least, which comes on gradually, and is probably due to an obstruction or lesion of some kind in the minuter divisions of the hepatic duct. Hæmatogenous jaundice in India is oftenest due to malarial fevers. Now, in jaundice due to any of these three causes, but especially in the second form, he has found large doses of ipecac to act better than anything else. In one case he gave on the first day forty-five grains. Improvement began on the day following. On the third day he gave a dose of thirty grains, and two days later another dose of twenty grains. Improvement was steadily going on. In other cases two doses were sufficient to restore the normal action of the liver. Dr. Cook relates one case of hæmatogenous jaundice due to malarial fever, in which the large doses of ipecac apparently acted well.

Reviews and Notices of Books.

Annual Report for 1879–80, of the Foochow Medical Missionary Hospital, and of the Opium Asylum in Connection with the A. B. C. F. M. Mission, under the Care of Dauphin W. Osgood, M.D.

The previous hospital reports of Dr. Osgood have been full of curiously interesting facts, and the present one forms no exception. Dr. Osgood's hospital is a small one, holding fifty or sixty patients, and most of the medical work is done in the dispensary. Altogether, 7,838 patients were treated during the year, an increase since 1876 of nearly 3,000.

Some comments are made upon the diseases most commonly demanding treatment.

Skin diseases outnumber all others, it is said, and will do so until the Chinese learn cleanliness.

Dyspepsia is exceedingly common, 2,395 cases having been treated. The cause of this is largely the poor food, the rapid manner in which it is eaten, and the use of opium. The food among the laboring classes consists largely of rice or dried potato, and turnip-tops or other greens, fried in oil, with a little dried fish or bean-curd as a relish. Such a diet costs about $1.50 or $2.00 per month. As there is generally a limited quantity, even of this, it is eaten hastily, without proper mastication. Worms (ascaris lumbricöides) are very common—so much so that it is considered wise to administer a vermifuge before any operation.

The Chinese have novel ways of committing suicide, a practice which is quite popular with them. Eating gold foil, and cutting off the tongue, are some of the methods resorted to.

Foot-binding receives a short notice. The shoes worn by some of the women in Foochow are, it is said, only two inches in length. If the Darwinian theory be true, it would seem that the habit of foot-binding, practised in China for more than a thousand years, ought to modify the size of the Chinese foot; but no change seems to be taking place!

Regarding leprosy, Dr. Osgood says he has never seen any cases cured, and very few have been benefited. Dr. Gould, of Swatow, however, who has a leper hospital in his charge, reports some cases cured and many improved. As a rule, the children of lepers are free from the disease. It is believed that a husband cannot give it to his wife, or the wife to the husband. There is a superstition, however, that a female leper can communicate the disease by sexual intercourse to anybody but her husband, and thus get rid of it herself. With this object in view, some of the leprous women lead lives of immorality.

The practice of midwifery is in the hands of old women, who know nothing of the art, and many lives are lost in consequence. A woman, after parturition, is closely confined to her room, doors and windows are closely shut, and care is taken to prevent the access of fresh air. She also avoids bathing for several days, and drinks ginger-tea to prevent catching cold. The result of this line of treatment is frequently puerperal fever.

The practice of surgery consists largely in the use of acupuncture, caustics, and cauteries. They wisely refrain from the use of the knife. Fractures are put up in bark splints, and frequently unite with but little deformity.

Diseases of the eyes are for the most part treated by internal medication. The only attempt at operative procedures ever seen by Dr. Osgood consisted of two pieces of bamboo tied together so as to strangulate a fold of skin, in a case of ectropion.

The medicines of the Chinese are derived from each of the kingdoms. A popular tonic is made of tiger's bones and tendons. Toads, frogs, snakes, wasps, elephants' skin and excrement, all are officinal.

The Chinese criminal code is rather hard on the doctor; if a patient dies as a result of an error in judgment, the doctor is not allowed to practise again. If any departure from the regular rules, with sinister designs, is detected, the doctor's head is chopped off.

The Foochow missionary hospital is interesting from an economic point of view. The hospital with fifty beds, and the dispensary with 7,437 patients, were carried on during the year for the sum of $1,732.19. This is better understood when we see that the wages of attendants are from $20 to $72 a year.

The Report of the Opium Asylum states that 350 cases were treated in the past year. Of these, eight absconded, the rest were discharged, cured of the desire for the drug. It is impossible to state, says Dr. Osgood, with any accuracy, what proportion of Chinese are addicted to opium. It is exceptional for women or children to smoke. Probably half the lower classes in cities use it; among farmers the practice is not so much found. But it is a common saying in China, that the opium-shops outnumber the rice-shops. Dr. Osgood condemns the use of opium unqualifiedly; he considers it an unparalleled curse, and disagrees entirely with the occasional apologists for its use. The Chinese themselves, he says, universally condemn it.

The plan of treatment in the Opium Asylum consists in confining the patient in the building for the first week, and compelling the total abandonment of the drug; in attention to diet, giving food in small quantities frequently, and, when necessary, adding stimulants; the administration of chloral hydrate, gr. xx. q. 1 h. as required, for the first two or three days; bromide of potas., tonics, etc., are also used. The tonic treatment is to be kept up several weeks after leaving the asylum. The desire for opium ceases in a few days, usually by the fifth or sixth; but the patients generally are left with impaired vitality, dyspepsia, or lung disease, as the result of their habit. The average daily amount of opium smoked was about eight to ten grammes.

Malaria.—Annual Address delivered before the Madison County, N. Y., Medical Society, April, 1880. By Dr. J. L. R. Wadsworth.

The point of especial interest in this well-written pamphlet is, that malaria can generally be observed to decrease in proportion as the activity of vegetation increases. Some statistics showing the variation in the amount of malaria in different localities are given.

Questions Submitted to Graduating Classes of the Medical College of Ohio, from 1871–72 to the Present Time.

This is the title of a small pamphlet that will doubtless be useful to students on the eve of examinations.

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Dr. Tanner has taken the stump to tell what he knows about fasting. His attitude toward the regular profession would be mildly characterized as hostile.

Reports of Societies.

THE BRITISH MEDICAL ASSOCIATION.

Forty-eighth Annual Meeting.

Held at Cambridge, England, August 10, 11, 12, *and* 13, 1880.

First Day—August 10th—General Session.

The meeting of the Association opened with a larger attendance than ever before. The first address was that of the President, Dr. Humphreys, and it was pronounced the chief event of the session. The first part of it was devoted to showing how little the University of Cambridge had done for medicine in the past, and what promise of work it gave for the future. Cambridge now has unequalled advantages for teaching anatomy, physiology, and chemistry. Good practical instruction in medicine and surgery is also given. It at present has over one hundred medical students. There is every promise that the university will continue to do still more for medicine.

Dr. Humphreys then spoke of the work of

CUMULATIVE OBSERVATION,

which it was the duty of the members of the Association to pursue more vigorously and satisfactorily. "This work," he said, "the work of collective action, the pull-together of eight thousand members of the profession, had been too little attempted, or if attempted, had been productive of too little result. It is, perhaps, the only work in which all, or a large part of the members, can really and fully participate, and to which each can contribute his mite. It is almost the only way in which questions relating to the effect of temperamental, climacteric, and topographical agencies upon disease, and many others, can be fully investigated and solved. To engage members of the Association as participators in any division of such work, would prove one of the most powerful inducements to the cultivation of observation and thought respecting the mass of facts which are passing, now too often unheeded or unnoticed, before their eyes." In order to carry out such a project as this, there would have to be a system adopted. There should be, in the first place, a well-paid secretary or registrar, who would collect, codify, and act with a medical investigation committee. The art of composite photography would be a valuable adjunct whereby typical features of certain conformations, and of the features of temperament and character could be obtained.

At the close of the address it was voted that the Committee of Council be directed to consider how the President's suggestions could be best carried out to a practical result.

Dr. Alfred Carpenter read the annual

REPORT OF THE COUNCIL.

This showed that during the past year the receipts of the Association had been $75,000, and the expenses $60,000. The balance for the year in the treasury is over $10,000. The total membership of the Association at date was 8,052, an increase of about 900 during the year.

The medal of the Association for distinguished services had been given to Dr. William Farr, C.B., F.R.S.

The organization of three new branches in Australia was announced.

During the year the Parliamentary Bills Committee had succeeded in getting a new warrant which greatly improved the condition of the army medical service. It had been trying to do a like work for the navy. The same committee had done much to secure the compulsory vaccination of children, and to introduce the use of calf's lymph.

The Committees on the Habitual Drunkard's Act, on Hospital Out-patient Reform, and on State Medicine, had no special progress to report.

The registration of infectious diseases had been introduced into thirteen towns and cities; it would doubtless be still further extended in the coming year.

The report of the Committee of Council was adopted.

Second Day—August 11th—General Meeting.

Dr. John Buckley Bradbury, M.D., F.R.C.P., delivered the address in medicine, choosing for his subject

MODERN SCIENTIFIC MEDICINE.

Dr. Bradbury made it the object of his address to show what modern medicine now owed to physics and the exact sciences. These were, he said, being introduced more and more into everyday practice, and were slowly but surely tending to take away from medicine the reproach that it was not a science. He gave a brief review of the discoveries and practical uses of the various instruments of precision now employed by specialists and general practitioners. Dr. Bradbury did not make his review a complete one, but referred chiefly to those instruments which he himself employed in his own work.

By the aid of the *microscope*, an advance, he said, had been made in the diagnosis of idiopathic pernicious anæmia. By it Wilks had discovered that there was in this disease no increase in the colorless blood-globules. This fact, combined with others which the microscope had first brought to light, made it possible to differentiate between anæmia, chlorosis, leukæmia, etc. The vast progress in pathology which the microscope had rendered possible was only referred to. The discovery of the disease trichinosis by Zenker, in 1860, with all its subsequent good results in the saving of human life, was due to the microscope. In view of the recent discoveries by Mr. Power of a parasite resembling trichinæ in the voluntary muscles of typhoid fever patients, the possibility that that disease is a form of trichinosis was hinted at.

The *thermometer* had done even more than the microscope to place medicine on a scientific basis. The "Treatise on Medical Thermometry," by Professor Wunderlich, has done more than any other work to further the progress of scientific medicine in the last ten years. Owing to it we are able to diagnosticate diseases which before, at an early stage, were confounded as tuberculosis and typhoid fever. We can make more confident prognoses, and use our drugs with more precision. It has led to the antipyretic treatment of fevers, which Dr. Bradbury endorsed. The special value of local thermometry was described, and M. Peter's investigations into the parietal temperatures in pleurisy were given. These show that we can tell by the thermometer whether the effused fluid is being absorbed or is increasing, and at what rate. The observations of M. Peter in cases of tuberculosis, confirmed by M. Vidal, show that as soon as tubercles occur at any point in the lung, the temperature rises there, and in doubtful cases of phthisis where the physical signs are not developed, local thermometry may assist in arriving at a correct conclusion. M. Peter's investigations in regard to the differences between the local temperatures of the abdominal parietes in ascites and in the various forms of peritonitis were also noticed. The value of temperature observations in localizing lesions of the brain was guardedly endorsed. General thermometry is useful in diagnosing cerebral hemorrhage from alcoholic poisoning; true apoplexy from the apoplectiform seizures of general paresis, disseminated sclerosis, cerebral softening, and uræmic coma.

The *ophthalmoscope* has furnished invaluable means not only of diagnosing diseases of the eye, of helping the recognition of intracranial tumors, syphilis, chronic Bright's disease, acute tuberculosis, tubercular meningitis, cerebral embolism, and locomotor ataxia. Cases of apparent brain disease, but in which the symptoms are really due to anomalies of refraction, recognizable by the microscope, also prove the value of the instrument to general medicine. Illustrations of the use of the instrument in detecting the various diseases above-mentioned were given. The ophthalmoscope, Dr. Bradbury concluded, must no longer be regarded as an instrument of use only to the ophthalmic surgeon.

The *laryngoscope* had not materially extended its field during the last ten years. Dr. Marcet had, however, shown that with it laryngeal phthisis could be very early detected, even before the lungs were affected. The use of the instrument in diagnosing syphilitic laryngitis and in determining the presence, extent, and character of the membrane in diphtheria, was also a recent addition to medicine.

The *sphygmograph* was considered at great length. Dr. Bradbury believed it would prove of great service sometimes in the early diagnosis of Bright's disease. The increase of vascular tension, indicating an arterio-capillary fibrosis, might precede any structural change in the kidneys; and if detected thus early, the threatened Bright's disease might be kept off. The discovery of high arterial tension might be a help in indicating other pathological conditions and in pointing the way to successful treatment. As one of the remedies for high tension, Dr. Bradbury recommended bleeding. He expressed his confidence that bleeding was now a much neglected measure, and that it would be oftener employed in the future. Dr. Bradbury discussed the causation of albuminuria. He also spoke of the way in which Dr. Brunton, through the help of the sphygmograph, discovered the value of nitrite of amyl in angina pectoris.

The use of the *aspirator* was not dwelt upon at any great length. The speaker referred to his success with it in tapping hydatids of the liver.

The *stethometer* was also passed over briefly. It will sometimes indicate traces of lung-disease that no physical examination of other kinds could display. Its chief value is in estimating the probable course of cases of phthisis and pleurisy.

The *spectroscope* is said by Dr. McMunn to enable one to distinguish blood from the bladder or urethra from blood from the kidney; and blood from the stomach from blood from the lungs.

Electricity is an agent that has helped both the diagnosis and treatment of disease. By it we are enabled to distinguish between spinal and cerebral lesions in cases of paralysis, and between peripheral and central nervous lesions.

Metallo- and magneto-therapy were reviewed by the speaker, who regarded the phenomena reported by Charcot and others as deserving more credence than is given by some. The theory of "expectant attention" he did not think sufficient to explain everything regarding the phenomena of transferred sensation.

Third Day—August 12th—General Session.

The members of the Committee of Council for the ensuing year were elected. Mr. Waters read the report of the Medical Reform Committee, which was afterward discussed. The address in Surgery was read by the Chairman of the Section, Mr. Timothy Holmes, M.A., F.R.C.S. Its subject was

FERGUSSON AND CONSERVATIVE SURGERY—EXCISION OF THE KNEE AND HIP.

Mr. Holmes said that British surgery was a thing to be proud of. English surgeons had particularly distinguished themselves in the practical part—that of healing their patients. Almost all the improvements in operative surgery were of English origin. The orator then paid a tribute to Sir Wm. Fergusson as the father of conservative surgery. In lieu of amputation or the slow decay of chronic disease, he had introduced two almost forgotten operations—excision of the hip and excision of the knee.

Mr. Holmes proceeded then to estimate the present position and value of these operations. He spoke in the deepest scorn of statistical methods, believing they had done more harm than good. By numerical statements, he said, it might be proved that "the homœopathist who soothes the sufferings of dyspeptic gluttons or hysterical fine ladies, are better practitioners than the great physicians who are consulted in all serious emergencies."

Mr. Holmes nevertheless introduced some figures showing the prevalence of the practice of excision in some of the great London and provincial hospitals. At Guy's Hospital, the operation for excision of the knee was performed eighty-nine times during the five years ending 1878; and at St. Thomas's sixty-two times during the same period. In the large hospitals where excision is performed, he believed that there was an increasing tendency to use it less as an operation of urgency than as one of expediency, and rather for the purpose of superseding the expectant treatment than as a substitute for amputation. The tables of Mr. Holmes also showed that there has been a reduction in the mortality of the operation from about twenty-four to less than ten per cent. Though very favorable results were secured by doing this operation under Lister, these results were no better than surgeons had obtained who did not employ this method, but were careful to dress the cases themselves and to leave the parts long undisturbed. Mr. Holmes gave as indications for excision: the strumous cases where the bones are superficially ulcerated; cases in which the synovial membrane has degenerated; cases of limited inflammation tending to necrosis; cases of abscess of the bone not extending too far into the joint; and cases of rheumatoid arthritis. Here, if the patient is healthy and especially if a child, the operation may be tried with fair prospect of success.

As a fair summary of the most recent experience the following propositions were laid down:

1. Excision of the knee is one of the indispensable resources of surgery, and is useful in all three classes of cases, viz., in those where, otherwise, amputation would be indicated; in those where the expectant

treatment might succeed, but is dubious; and in cases of vicious anchylosis.

2. As a substitute for amputation, it is indicated in early life, and in non-tuberculous subjects; in cases of limited caries of the bones, of degeneration of synovial membrane, and in some conditions of necrosis of the articular surfaces; possibly also in abscess in the ends of the bones.

3. As a substitute for the expectant treatment, it seems to be justified, and is extensively used in cases where the patient's circumstances and the slow progress of the case, render the surgeon hopeless or very doubtful of recovery with sound anchylosis.

4. It is also frequently used, and very successfully, in cases of vicious or deformed anchylosis.

5. Attempts have been made to limit the place of excision by opening the joint and drainage, and by some other partial methods. These attempts have been fairly successful, especially in cases where the affection is rather of the synovial membrane than of the bones, and they deserve more extensive trial than they seem as yet to have obtained.

6. At the same time, the mortality from excision of the knee seems of late years to have been so greatly diminished as to encourage the hope that the limit of age which it has been found necessary hitherto to observe may be extended, and it may be judged prudent to apply the operation to the treatment of the more chronic affections of later life, such as chronic rheumatic arthritis, more extensively than has been done up to the present time.

In cases of hip disease, Mr. Holmes sums up his views as follows: excision of the hip ought to be very rarely indeed required if the disease be treated properly at its commencement; in cases seen at an advanced stage of the disease, it is chiefly when sequestra exist that the operation is necessary, though it may be advisable as a means of shortening the treatment in other cases also, when the patient cannot obtain the prolonged surgical care essential to natural recovery.

The speaker in conclusion showed the evils to the poorer class of the present out-patient hospital system, in that it rendered the treatment of chronic diseases so unsatisfactory. He referred to the scheme now under consideration of establishing provident dispensaries throughout the metropolis of London.

At the close of the address a resolution of thanks was moved by Sir Henry Thompson, who made a brief and eloquent speech.

The report of the Scientific Grants Committee was then made. [A summary of this has appeared in the RECORD.]

The members of the Joint Committee on State Medicine were re-elected for another year.

The ceremony of the presentation of the Gold Medal of the Association to Dr. Farr then took place.

FOURTH DAY—AUGUST 13TH—GENERAL MEETING.

The meeting opened with the address in physiology by MICHAEL FOSTER, M.D., F.R.S., on the

RELATIONS OF PHYSIOLOGY AND PATHOLOGY—THE PROFESSIONAL ASPECT OF PHYSIOLOGY.

Physiology might be defined, he said, as the actions and reactions of living beings; differing, therefore, from morphology, which treats of the characteristics of form. These two branches of science were converging, and would, in times far distant, unite; that is to say, we shall then know function by studying structure, and we shall know what is the structure of a living being when we know its function. Dr. Foster showed that the physiological inquiry now goes deeper than the investigation of function simply; it studies the molecular changes of the living cells, the ultimate vital phenomena. This was a fact which proved that physiology is closely related to pathology, that the two sciences are in fact one, and can no more justly be separated than can the science ot meteorology be divided into a science of good weather and a science of bad. The speaker lamented the neglected condition of pathological study in England. There is only one solitary institute in that country devoted to pathological inquiry, and that one exists under difficulties, and occupies only part of the time of a largely engaged practising physician. A new chair of pathology, very fully equipped, is, however, being erected at Cambridge.

Pathology, the lecturer thought, was not only the rational basis of the healing art, but also an important intellectual equipment for every practitioner who is not simply a machine for prescribing drugs in a dull, mechanical manner. But the salutary use of pathological doctrines requires a certain critical power, and the building up of this power is one of the chief functions, especially for the active practitioner, of physiological study. Physiology might be considered the watch-dog against vagrant pathological theories. The study of physiology was not only practically useful, but it disciplined the mind to habits of careful reasoning and close observation. This was the case at least in schools where the science is taught as it should be. It was to be regretted that in so many of the metropolitan medical schools physiology was taught by those who gave themselves but partly to the study, most of their time being devoted to a medical or surgical practice.

Dr. Foster compared the two studies, anatomy and physiology. The former was, he believed, most useful as a means of mental discipline, its practical value was small apart from this. In former times it had been advisable to insist rigorously upon this study to the exclusion of physiology. Now, he thought, equal discipline could be obtained from the study of physiology, and, in addition, it would train the mind to better habits and fill it with more useful facts. He would have anatomy hereafter made secondary to physiology.

Following Dr. Foster's address were a number of reports of special committees. That of the Committee on Out-patient Reform was made by its chairman, MR. TIMOTHY HOLMES. He said that the work of the committee was now at a stand-still, because it was divided against itself. He believed that nothing could be done to reform out-patient department abuses until some system took its place. The only possible system was that of provident dispensaries. They were now trying to secure the co-operation of the friendly societies so as to make such dispensaries possible.

Votes of thanks were given to the various officers and local authorities.

Of the events outside the general and sectional meetings, one of the most notable was the

CONFERRING OF THE HONORARY DEGREES

upon a large number of eminent physicians and surgeons. The ceremony took place in the Senate House. All the doctors, actual and designate, marched in, wearing scarlet hoods. The undergraduates' gallery was filled with students who made the usual demonstrations. The public orator delivered the degrees to the twelve candidates, accompanying each with a brief speech in Latin. Sir Wm. Jenner was introduced as celebrated for his great knowledge and success in the treatment of fever, "quæ pulsat pede æquo pauperum tabernas regumque terras." Referring to Dr. S. D. Gross, he said: "Transfluctus Atlanticos, trans oceanum non jam ut antea 'dissociabilem,' patriæ nostræ ad portus nuper advectus est vir venerabilis quem inter fratres nostros transatlanticos scientiæ chirurgicæ quasi alterum Nestorem nominare ausim." When Sir Wm. Gull's name was mentioned, there was a storm of hoots and hisses from the students which stopped the orator's remarks for some time.

THE SECTION OF SURGERY.

The Section of Surgery was opened with an address by its President, Mr. Wm. S. Savory, F.R.S. It was characterized as "clear, eloquent, and useful rather in calling attention to points already known, but apt to be overlooked, than in recording anything new." The subject was

CONSTITUTIONAL DISTURBANCE.

The term "constitutional disturbance" was, the speaker thought, a good one in its application to the effect of local disease or injury. Such disturbance, it was now known, might be brought about by different agencies; chief among them being the nervous system and the blood. The object of the lecturer was to show that two forms of constitutional disturbance from these two causes existed, and that it was very important to distinguish each of them. Mr. Savory then discussed at some length the physiology of the correlation or "sympathy" between different parts and organs of the body. He showed the delicacy and universality of these sympathies, and the distinction between them and reflex action. Continuing, he said, "But impressive as the evidence is of this mutual dependence of parts through the nervous system, it is, nevertheless, clear, that this is not the only agent of sympathy; there is another even more universal, and perhaps more subtle, if in health, more obscure in its operation—the blood. The blood is thus the medium of communication between all parts by virtue of the incessant changes which go on everywhere between the blood and tissues in nutrition. You remember the aphorism: 'Each single part of the body, in respect of its nutrition, stands to the whole body in the relation of a secreted substance,' and Paget's brilliant use of it. And it is not hard to understand that if any part fails to withdraw from the blood, or supply to the blood its proper materials, the blood will be affected, and through it remote parts or organs of the body. The blood may be affected by the introduction of poisons from without, as in cases of wounds, or of morbid changes deep in the tissues; but it may also be affected by local morbid actions and by various forms of perverted nutrition." And the lecturer asserted that between the cases of fever induced by the latter agency, and those induced by blood-poisoning with matter derived from without, it was not possible to draw the line. He believed that the cases of constitutional disturbance due to blood-poisoning were much more frequent than was generally supposed. The poison often worked itself off without producing many symptoms. It might indeed be that some one of the excretory organs was capable of ridding the organism of the poison at once. An illustration of one of the transient forms of

INFECTION OF THE BLOOD,

and the rapid recovery from it by elimination, is that which occurs in the dissecting-room. Persons often experience a nausea or faintness, or notice a taste and smell which indicate the penetration into the system of volatile matter, the result of decomposition. This passes speedily away and is forgotten until some hours after, when the peculiar odor is again recognized in the perspiration, the excrement, or the breath.

The speaker would not give undue weight to the part that blood-poisoning plays in producing constitutional disturbance. The nervous system has its share. Thus the fever which results when the products of inflammation are bound down tightly by fascia, as in whitlow, or in abscess confined by bone, or in disease of a joint, must be provoked through the nervous system. The clinical features of the two forms of constitutional disturbance can be in most cases distinguished. In both there is usually pyrexia, with the rapid circulation and respiration, and the disorders of secretion usually accompanying fever. These signs were, as a rule, common to the two forms of mischief. But beyond these, in the more active forms of blood-poisoning, there are added rigors, sudden changes of temperature, profuse perspiration, etc. Often the distinction between these two forms of constitutional disturbance could not be made out in actual practice, because the two agencies, the nervous system and the blood, were both at work.

Following the address of the Chairman was a long and valuable discussion upon the "Treatment of Wounds." In this Mr. Lister took a large part. A discussion upon internal urethrotomy was opened by Sir Henry Thompson.

[An account of this will appear later in the Record.]

The address in the

SECTION OF OBSTETRIC MEDICINE

was delivered by W. S. Playfair, M.D., F.R.C.P., the subject being "The Teaching of Obstetric Medicine." The speaker described the deficiencies in obstetric medicine of the English schools. This branch of medicine, he said, though of so high importance, was made of but secondary importance in the regular lecture courses. The practical instruction was very small in amount, and the didactic lectures lasted only three months, or were relegated to the summer course. There had been many attempts to secure reform, but so far without success. Dr. Playfair thought that the General Medical Council ought to have among its members some physician who made a specialty of obstetrics and diseases of women.

Dr. Lombe Atthill introduced a discussion upon

UTERINE HÆMOSTATICS,

with special reference to the hemorrhages occurring in the non-puerperal uterus. A large number of gentlemen took part in the debate, and the value of nearly every uterine hæmostatic was discussed more or less. Most of the speakers testified to the value of Chian turpentine in arresting hemorrhage and lessening pain, but it was thought oil of turpentine might act nearly as well. Hot water, ergotine (preferably injected into the gluteal muscles), injections of iron, plugging the cervical canal, pressure on the aorta, external and internal manipulation with the hands (in post-partum hemorrhage), the use of quinine, strychnine, and iron, as adjuvants, were all endorsed.

HEMORRHAGE AND SICKNESS DURING PREGNANCY

was the title of a paper by Dr. Henry Bennett. The speaker took the ground that chronic inflammation of the body of the uterus or of the cervix, very often existed in parturient women, and gave rise to many bad symptoms and accidents, such as laborious gestation, abortion, obstinate sickness, hemorrhage, etc. Dr. Bennett believed in treating these conditions, ulcerations of the neck, inflammations, etc., by surgical interference.

In the discussion Dr. Byrne, of Dublin, said that he did not believe in Dr. Bennett's views. He had seen very few cases of ulceration indeed.

Dr. Grailly-Hewitt said that high authorities had stated that "inflammation" was a word which should be removed from uterine pathology.

A discussion on the treatment of uterine flexions was led off by Dr. Henry Gervis, and participated in by Drs. Herman Bantock, Pallen, Sims, and others. A paper was then read by Dr. Montrose A. Pallen, of New York, on the

ETIOLOGY AND TREATMENT OF LACERATIONS OF THE CERVIX UTERI.

The paper, which strongly advocated the sewing up of all lacerations, and which pronounced lacerations to be of frequent occurrence, was evidently a novelty to the gynecologists present. It was discussed cautiously by several of the gentlemen. None, except Dr. Hewitt, seemed to have ever seen many lacerations.

Mr. T. Spencer Wells opened a discussion on

THE REMOVAL OF UTERINE TUMORS BY ABDOMINAL SECTION.

He said that his whole experience in this operation included sixty cases: thirty-four of removal, with eighteen deaths and sixteen recoveries; twenty-six of incomplete operation, with one death. The mortality had been very much smaller since the introduction of antiseptic precautions. In describing the operation he referred to the importance of sewing up the uterine wound. When this was done, with antiseptic precautions, he thought the intraperitoneal method the better.

The discussion that followed was shared in by Mr. Knowsley Thornton, Mr. Lawson Tait, Dr. J. Marion Sims, Prof. Macleod, and others.

The address in the

SECTION OF PSYCHOLOGY

was delivered by J. Crichton Browne, M D., LL.D., F.R.S.E., upon "Circles of Mental Disorder—Modern Nervous Diseases." The speaker began by deprecating the introduction of the subject of mental diseases into undergraduate education. He thought the curriculum already overburdened, and that the teachings of psychological medicine were now too ambiguous and unsystematic to be useful either in the matter of instruction or discipline. The student of medical psychology should first be broadly grounded on the principles of general medicine.

The speaker then described the three divisions of mental disorders, which he made and which he represented by concentric circles. In the central circle were to be included all the insane and idiotic recognized as such. In Great Britian and Ireland, on January 1, 1880, there were 93,624 of these. Outside of this lies a second one which he would call the "crazy circle." In this we have those whose mental disease is only incipient or slight, such the as inoffensive lunatics, the host of eccentric, half-mad, crack-brained, and imbecile persons who move in every grade of society. Dr. Browne estimated that there were 180,000 occupants of the "crazy circle" in the United Kingdom. Finally, beyond the crazy circle lies another and outer circle, which might be called the neurotic. It embraced all the sufferers from nervous diseases that are not necessarily accompanied by mental disorder. No attempt was made to get a census of this class, but as 70,000 deaths are attributed annually to nervous diseases in England and Wales, it shows that the number of the neurotic circle is large.

The occupants of the

THREE CIRCLES

were constantly shifting from the inner to the outer, or the reverse; sometimes slowly, sometimes rapidly. Neither the population nor the boundary limits of the circles were permanent and distinctly defined. The numbers, however of each are increasing. Dr. Browne gave his reasons briefly for believing that the number of the insane is increasing disproportionately to the population. He spent more time, however, in demonstrating the same thing for the circle of neurotics. He referred to Dr. Beard's conclusions regarding American nervousness, and thought that the same changes were taking place in England, though less noticeably than in America. His reasons for this belief in the increase of neurotic diseases were:

1. The fact that the English are a thinner people than they used to be. 2. That the death-rate from nervous diseases had not diminished, though many cases formerly classed under nervous diseases in mortality reports are not so assigned now, and though some nervous diseases tend to prolong rather than shorten life. 3. That certain diseases in which the nervous system plays a prominent part are on the increase, *e.g.*, diabetes, granular kidney, heart disease, aneurism, rheumatism, and gout. 4. Other points adduced were the increased frequency of premature baldness, decay of the teeth, the necessity which annual holidays have become, the rise of hospitals for nervous diseases, the rapid growth of neurological science, and the increased consumption of neurotic remedies.

The causes of this increase could be summed up under, 1st. The increasing complexity of the nervous system. 2d. The increasing complexity of life. Of the many conditions of modern life tending to promote the increase of mental and nervous diseases, Dr. Browne spoke especially of education, which, as now conducted, is full of danger to the young. The structural complexity of the brain was not reached at once nor at a single period of time. Different parts became perfected and capable of functioning at different times. The various powers of the mind ought to be cultivated then at the time that their structural basis was becoming developed. Certain mental capacities originally good might become utterly lost by lack of training. The speaker believed that muscular exercise, and especially manual dexterity, might help to develop mental qualities.

At the close of the President's address a discussion

ON THE INFLUENCE OF ALCOHOL IN THE CAUSATION OF INSANITY

was opened by Dr. G. W. Bacon, who was followed by Drs. H. Sutherland, Hack Tuke, and others.

The general opinion seemed to be that the statistics on the point, so far given, greatly exaggerated the importance of intemperance as a cause of insanity. It was often only an early symptom of the mental disease. Further and more exact data seemed to be needed. It was the opinion of Mr. Fletcher Beach that intemperance in parents was one of the prominent causes of imbecility in children.

Among a number of other papers presented was one by Lawson Tait on a case of epileptic mania treated by oöphorectomy. Considerable relief was brought about by the operation. In the discussion Dr. Bacon said that he had castrated two male epileptics with the result in one case of great improvement.

SECTION OF PHYSIOLOGY.

The session began with a discussion on "The Evidence derived from Clinical Observations and Physiological Experiments as to the Seat of the Formation of Urea in the Human Body," opened by Prof. Arthur Gamgee, of Manchester. After going over each point in the subject at some length, he summed up his conclusions as follows: 1. It appears that the formation of urea does not occur, or occurs in insignificant amount (*a*) in the blood, (*b*) in the muscles, (*c*) in the nervous organs. 2. It is reasonable to suppose that in the glandular organs urea or its antecedents are formed. 3. The researches of various observers render it certain that urea is formed in the liver, though they do not warrant us in saying that the liver is the only seat of formation of urea. 4. Pathological observations establish a very strong presumption in favor of the liver being the organ in which the largest quantity of urea is formed. If properly pursued, pathological investigations afford the best possible means of proving conclusively whether urea is formed in the liver. 5. In order to obtain thoroughly satisfactory information from such investigations, it will be necessary that in future the total amount of nitrogen in the food shall be rigorously determined, as well as the total amount of nitrogen in the urine and the urea. Moreover, the participation of other organs, and especially the kidneys, in the morbid condition supposed to be connected with a deficient formation of urea, must always be carefully investigated.

A paper on "Urea in Blood and Muscle" was read by J. B. Haycraft, M.B. He found, on an average, in muscle, ten parts per 100,000; in blood, thirty parts. He believed urea to be a substance separated from the proteid food-stuffs before they underwent tissue assimilation. It was, in fact, a phase of digestion.

Papers were read "On the Presence of Leucin and Tyrosin in the Urine in Numerous Diseases," on "The Action of the Ribs in Forced Expiration," on "The Contraction of Striated Muscle."

A lengthy discussion upon "Sleep and Hypnotism" was opened by Prof. W. Preyer, of Jena. The speaker described his own theory of the cause of sleep; that it was due to the accumulation of fatigue products in the circulation, which took up the oxygen of the blood that was needed by the nerve-cells. He then reviewed some of the experiments and studies in hypnotism made by Dr. James Braid, and recently by Heidenhain, himself, and others. [A summary of these has appeared in the RECORD.]

DR. C. E. BROWN-SÉQUARD read a paper on the

EFFECT OF CERTAIN LESIONS OF THE BRAIN UPON THE EXCITABILITY OF THE MOTOR CENTRES.

He related a number of experiments which showed that there were a number of lesions of the brain which could produce absolutely opposite effects. One of these is well known as motor inhibition (or paralysis); the other he called *dynamogeny*. As an example he said that if a guinea-pig's head were suddenly crushed there would be paralysis of the fore legs, but very powerful convulsions in the hind-legs. He had found that lesions near the base of the brain would produce like results in other animals.

SECTION OF PATHOLOGY.

The event of this section was the address of the President, Sir James Paget, on "Elemental Pathology." The many difficulties surrounding the study of pathology, and the solution of its problems were referred to. Some of these difficulties might be lessened and light thrown upon many pathological problems by the study of the "Diseases and Injuries of Plants." He then described some of the diseases which he himself had studied. Hypertrophies were important because they were not related to function but simply to supply of nutritive material; thus the "ringing" of trees causes an hypertrophy analogous to that produced in the human body by the obstructed return of lymph. Atrophies are rare in plants but degenerations are common. Senile degeneration is well illustrated by the changes which take place in leaves preceding their fall. The degenerations found in the "sere and yellow leaf," throw light upon symmetrical disease; they show that neither blood or nerves are necessary to symmetrical decay. Again, the mode of decay and fall of leaves show that decay is not death, for dead leaves do not fall; the necessary antecedent changes are vital processes. The low vitality, but high scale of development of the fibre of the leaf-stem, illustrated the fact that many changes which we call higher developments are, from the point of vitality, degenerations. Bone was allied to calcareous degeneration, though it had acquired high uses.

Regarding the repair of

INJURIES IN PLANTS.

He said it was much less perfect than in animals, the reparative process rarely proceeding beyond the mere protection of the injured part. When plants are injured, layers of cork-cells are formed around, which may grow over the wound, or a gummy exudation is poured out, but the epithelium never re-forms. Still, trees show "the inevitable process of repair" going on in one known case in a pine tree, for one hundred and fifty years, without complete cure. This law, that an injury, which might occur at any age, and have no parallel antecedent in any ancestor, being indeed unique, should inevitably tend to become repaired in a particular way, indicated that there were other laws and properties at work in the body than those accounted for by heredity or evolution.

Two other topics were then taken up: inflammation and specific diseases. Inflammation was caused in plants by irritation. The gall was an illustration of the result of a specific inflammation, of which there were many kinds.

Sir James Paget concluded by urging his hearers to study some definite science apart from their professional work. "The astronomer studies astronomy in dark, stormy nights, and in the railway train, but his best studies are in the quiet of the observatory and with a calm, clear sky. Our life work lies in stormy nights and railway trains. If we desire to study calmly, and to profit, we must choose some subject which we can carry on apart from our professional work, during our leisure and holidays, which will yet afford lessons of surpassing value. Such a study is that of the diseases of plants.

The address, says *The Lancet*, was characterized by all the ease and clearness of diction, masterly force of language and felicity of illustration, which distinguish the speaker; and the audience showed no desire to break the spell which bound them in eager attention to the close.

Following the address, **Prof. Joseph Lister** read a paper of extreme interest upon

MICRO-ORGANISMS: THEIR RELATION TO DISEASE.

He first detailed the results of the experiments of Dr. Koch, of Wollstein. By ingenious methods of staining, that investigator had been able to detect not only the *bacillus anthracis*, which causes anthrax, but he discovered other specific micro-organisms. These were the *bacillus septicæmiæ* and the chain micrococus, the latter always causing gangrene when injected into house mice.

The *bacillus septicæmiæ* is an extremely minute organism, and would be invisible unless stained. Dr. Koch had been able to prove that it always caused septicæmia, never pyæmia, when injected into mice.

Professor Lister then described the micro-organism discovered by Toussaint in fowls suffering from fowl-cholera. This fowl-cholera is a highly infectious blood disease, characterized by swelling of the lymphatics of the neck, pericarditis, and duodenitis, but with no diarrhœa. The bacterium, claimed to be the cause of the fowl-cholera, is oval-shaped, multiplies by transverse constriction, and is about $\frac{1}{40000}$ of an inch in diameter. Pasteur has cultivated this organism, and has been able to modify it, so that by injecting the modified fluid he can cause a mild form of fowl-cholera—protective against a second attack. In the same line of inquiry, Dr. Greenfield, by experiments, had recently shown that if a guinea-pig be inoculated with the blood of a heifer suffering from splenic fever, the former animal takes the disease; if now the blood of the guinea-pig be inoculated in a healthy heifer, it will protect that animal against splenic fever. Professor Toussaint had performed similar experiments in regard to "vaccinating" for anthrax. But he went farther; he showed that the protective power is not conferred by inoculating any form of the *bacillus anthracis*, but by inoculating the fluid in which it had grown. Thus, he took blood from a case of anthrax, and by filtration and carbolic acid destroyed the organism; he then injected the filtered fluid into a healthy animal, and found it protected against the anthrax.

In conclusion, the speaker described the ingenious experiments of Dr. Buchner, of Munich, by which he had transformed, by cultivation, the *bacillus anthracis* into the hay-bacillus, and *vice versa*.

At subsequent meetings of the Section, papers on "Glomerulo-nephritis," by Dr. Leech, "The Pathology of Psoriasis," by Dr. Thin, "Congenital Neurotic Papilloma," by Dr. Cotter, and "Cerebral Embolism," by Dr. Dickinson, were read.

Mr. Jonathan Hutchinson read a paper, in which he reviewed the "errors which are liable to arise in the study of the part played by the nervous system in causing derangements of nutrition." Discussing the different views as to the

ACTION OF NERVES ON NUTRITION,

he divided them roughly into the view that all this action is vaso-motor, and to that which adds to this a special trophic influence. Before accepting the latter view, all hypotheses should be exhausted. He summed up the facts militating against the trophic hypothesis: the great rarity of some of the diseases which on the trophic theory should be common; the remarkable differences of these lesions supposed to be due to a common cause, and their great resemblance to lesions not of neurotic origin. Mr. Hutchinson gave a list of the conditions supposed to be dependent on trophic nervous influence. He then took up each one separately and showed the doubts that might be thrown upon its presumed neurotic origin.

In the discussion that followed, Drs. Brown-Séquard, Clifford Albutt, Dickinson, and others took part, most of them disagreeing with Mr. Hutchinson.

Dr. Buzzard read a paper on "Some Cases of Joint Affection in Locomotor Ataxy," which was admirably illustrated with photographs.

SECTION OF OPHTHALMOLOGY.

This Section was opened with a few introductory remarks from its President, **Mr. W. Bowman.**

Mr. Priestley Smith then read a paper on the "Pathology of Glaucoma," which was subsequently discussed by Mr. Cowell, Professor Donders, and others.

In a sub-section of otology, several valuable papers were read. Among them was one upon "Electricity in Ear Diseases," and one upon the "Treatment of Suppuration of the Middle Ear." A discussion upon the comparative value of mechanical aids to hearing took place.

Correspondence.

THE TREATMENT OF CYSTITIS.

To the Editor of The Medical Record.

Sir:—In the Record of September 4th I notice a report of the proceedings of the New York Surgical Society on the *value* of *operations* for the cure of *cystitis*, and while cordially agreeing with the majority of the gentlemen who participated in the discussion, that the great desideratum for the successful treatment of this troublesome disease is rest for the inflamed viscus, and the most absolute rest at that, my experience leads me to differ with them in regard to the manner of obtaining it.

During the past two years I have treated six cases of *cystitis*, two in the *male* and four in the *female*, and having lately adopted the principle that *complete rest* for the bladder was a *sine qua non* in the treatment, I cast about for obtaining it. Case No. 1, *male*, was of recent origin, and due to the extension of a gonorrhœa. Case No. 2, male, was a person of 40 years of age, intemperate, with an *enlarged prostate* and *stricture* of the *urethra* in its prostatic portion, the cystitis of a year's standing. Case No. 1, *female*, was also of recent origin, while cases 2, 3, and 4, *female*, had had a duration of one, two, and five years respectively.

The *treatment* in each case consisted in the retention of a soft *catheter* in the bladder, with the distal end attached to a urinal, so as to permit of the *free escape* of the urine on its entering the bladder. The introduction and changing of the instrument was attended with considerable pain, but once in position it answered every requirement in emptying that organ and producing perfect quiescence. I was careful to avoid the introduction of *too much* of the catheter, as it is liable to produce irritation and pain when brought in contact with the mucous coat. The medical treatment consisted in the administration of small doses of *ergot* by the mouth, every four to six hours, with the addition of *opium* when indicated.

In two of the *females* the continued use of the ergot produced uterine troubles, and I discontinued it in those cases, substituting hydrarg. submur. in alterative doses.

This was all the treatment employed, and all were attended with what I believe to be a permanent cure. The duration of the treatment was in one case seven days; in the remainder it ranged from twelve to twenty days. On the first introduction of the catheter the major symptoms, as pain, etc., at once subsided, and although there was considerable suprapubic tenderness left with recurring *aching pains*, none of the patients, after four hours' experience with the *catheter*, would consent to its entire removal till the inflammation and dysury had disappeared. Its constant use was not attended with any unpleasant consequences, and in the *females* it did not necessitate a recumbent posture.

Yours very truly,
M. F. Leary, M.D.

Gaylord, Kansas, September 13, 1880.

TREATMENT OF SPASMODIC ASTHMA.

To the Editor of The Medical Record.

Dear Sir:—In the smoky city of Pittsburg, quite well known throughout the United States as a resort for the bettering of those afflicted with asthma, we have a great deal of that disease. There are here many residents, natives of our city, sufferers from asthma. Yet there is in Pittsburg (Allegheny is only a suburb) the smokiest and heaviest atmosphere of any city perhaps on the continent. Dr. Hyde Salter, of London, says that an urban residence is preferred for asthmatics, and more especially that portion of a city in which the atmosphere is the heaviest and smokiest. Yet again, notwithstanding the opinion of so high an authority, it seems to me, through actual experience here, that those benefited by a Pittsburg residence are strangers, and are relieved according to the rule in this disease that travel and *change* will bring relief—the centres of relief being elsewhere as well as here.

I speak of pure nervous or spasmodic asthma—a disease in which I recognize two pathological elements: 1, *nervous spasm* of the bronchial tubes; 2, *hyperæmia*, approaching or amounting to inflammation. Difficult breathing involves all the physical signs. The *râles* have *a double character—id est*, they occur *both in inspiration and in expiration*. This I recognize, with Prof. Alonzo Clark, as a *sure sign* of spasmodic asthma.

In this disease I have tried, in vain, everything mentioned by the best authorities in therapeutics. Morphine I have relied on mostly; then nauseants and antispasmodics, *ad infinitum*.

On the first day of last April I was called to attend a lady, aged fifty years, whom I had attended at different times for over three years. On that day commenced the most violent attack of asthma she had ever had. Until the 10th day of May she had never left her room—scarcely ever the chair in which she sat. Breathing was difficult, without intermission. So much medicine had I given her that now I was beginning to fear the result in her case. Morphine quieted her, but as soon as I diminished its quantity the dyspnœa returned as bad as ever. At last her limbs became very much swollen; she became very weak, having had no appetite at all. I feared emphysema; I feared a termination of my case in dissolution. The lady had been a life-long sufferer from asthma; was a farmer's wife, but for over three years has been a resident of this city and a lady of leisure. As a last resort the idea arose in my mind, and I applied counter-irritation over the pneumogastric nerves from the upper part of the thyroid cartilage to near the upper borders of the clavicles, with tincture of iodine, even to blistering, when relief followed so rapidly and completely as to make me doubt that it was due to my application. In twenty-four hours the lady was greatly improved, and within forty-eight hours from the time of painting her neck *her asthma had disappeared entirely*. I was not satisfied, but had determined to paint her again so soon as the asthma returned. It has not yet returned. After the paroxysm had terminated, she took iodide of potash for several weeks, and has been better than ever before in her life.

The next case is that of a gentleman, æt. 42 years, a farmer. He has had spasmodic asthma all his life. His mother had it through her lifetime. He had been having attacks, growing worse every night, for a long time. I at once applied *counter-irritation over the pneumogastric nerves* in the neck, and placed him on iodide of potash. The night of the day on which I painted him (August 12th) he slept. He said that "he never saw relief come so quick. That last night was the most pleasant night he ever had."

Case III.—Gentleman, æt. 32, afflicted with spasmodic asthma since he was two years old. Had been having attacks every night. I painted his neck with iodine, making a streak about half an inch in width, and ordered potash internally. I cured the paroxysms.

All I have observed and all I claim for this treatment is relief of the paroxysm; and, thus far in my experiment, of the first paroxysm in which it is applied, because the patients have had no more since I first applied it, but all continue better.

These are three cases, consecutive, and all made better. It is a very limited number, but recollect they are consecutive cases of pure spasmodic asthma, which have occurred within five months in my practice, and as I may receive no new cases for some time, I speak of them for what it may be worth.

Very truly yours,
R. B. Faulkner, M.D.

Allegheny City, Pa.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 12, 1880, *to September* 18, 1880.

Moore, Jno., Major and Surgeon. Assigned to temporary duty as member of the Medical Examining Board in New York City. S. O. 194, A. G. O., September 11, 1880.

Ainsworth, F. C., Capt. and Asst. Surgeon. Granted leave of absence for six months. S. O. 196, A. G. O., September 14, 1880.

Price, C. E., Capt. and Asst. Surgeon. To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 196, C. S., A. G. O.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending September 18, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Sept. 11, 1880.	0	15	36	2	8	49	0	0
Sept. 18, 1880.	0	14	25	0	10	59	3	0

Diphtheria Spread by a Cat.—The following account is given as authentic :

"Three deaths from diphtheria have recently occurred in the family of Baldwin Gordon, who lives at the beach opposite Patchogue, L. I, under very remarkable circumstances. Some time ago a cat, which had been owned by a family several members of which were suffering from the disease, was taken to the Gordon house. While playing with this cat a little child of Mr. Gordon was bitten in one of its fingers. The wound caused intense pain, and was soon followed by a soreness and ulceration of the throat, which a physician pronounced to be diphtheria. Others of the family were taken with the disease and two of the children died. Mrs. Gordon, who was recovering from sickness, was seized with the disease and died. It is reported that still another member of the family has died. Physicians believe that the cat was suffering from diphtheria when it bit the child."

Successors to Prof. Paul Broca.—M. Trélat, Professor of External Pathology, Faculty of Paris, has been transferred to the Chair of Clinical Surgery, vacant by the death of Prof. Broca. M. Gavarret, Professor in the Faculty of Medicine of Paris, has been given the direction of the School of Anthropology, formerly in charge of the same distinguished man.

St. Francis' Hospital, N. Y.—A competitive examination of applicants for the position of junior assistant (two vacancies) on the house staff of St. Francis' Hospital, will be held at the hospital, 601 East Fifth Street, on Monday, September 27th, at 11.30 a.m. Candidates may present their credentials to Dr. Geo. F. Shrady, 247 Lexington avenue, New York, or to any other member of the Medical Board.

Workhouse and Almshouse Hospitals.—A competitive examination of applicants for the position of assistant house physicians to the Workhouse and Almshouse Hospitals (two vacancies) will be held at the residence of Dr. F. D. Weisse, No. 51 West Twenty-second Street, on Saturday, September 25th, at 8 p.m. R. Van Santvoord, M.D., Secretary of Medical Board.

Small-Pox in Harlem.—On the 16th inst. it was reported to the Board of Health that a child in Harlem was suffering from a disease suspected to be small-pox. Dr. Taylor, the chief of the Vaccination Bureau, found it to be a genuine case of small-pox. The child was in the first stage of the disease. The house contains six families, and Dr. Taylor having been informed that on an upper floor two infants were sick from measles, found them suffering from small-pox. He learned that there had been five cases in the house in four weeks, and that one of the patients had died, and the physician had not recognized the disease. The contagion was traced to a case that occurred some weeks ago, but whence it came was not ascertained. Arrangements were made to disinfect the house. The children were removed to the Reception Hospital.

Fasting Frogs.—Dr. H. S. writes: About the middle of October, 1879, I put two common frogs into an earthen jar, with a little water and a stone in the centre, covered the jar closely, intending to use them in the winter to illustrate the circulation of the blood under the microscope. I supplied them with water once during the winter, and finally forgot them until the 15th of July last. Upon opening the jar I was unexpectedly pleased to find my frogs alive and well, and able to leap vigorously when I turned them out. They had lived, honestly, without food nine months.

The Floating Hospital made its last trip, September 16th. It has made forty trips during the past summer, and has carried about 27,000 mothers and children.

Otalgia and Irritation of Trigeminus.—Dr. Sexton, of this city, writes : In your report of the transactions of the American Otological Society, in the Record of June 11th, I am reported as saying—"Dr. Sexton was inclined to believe that the collections of cerumen in the ears had a good deal to do with the causation of mastoid neuralgia." This paragraph alludes to an opinion expressed respecting the neuralgia experienced in a case under discussion. What I said was this : that the neuralgia in this case probably had its origin in the irritation of the dental filaments of the fifth pair of nerves; the irritation being reflected to the temporal region was the cause of the severe pains experienced by the patient.

Medical Honor in Philadelphia.—According to the *Philadelphia Medical Times*, consultations are comparatively very rare in Philadelphia. The reason assigned is that the young men are afraid to call in their elders because the said elders allure the patients from those whom they are called to advise. What between the old men being thus crafty, the young men inexperienced, and Dr. Buchanan's diploma-mills, medical matters look rather dark in the Quaker City.

Gonorrhœa and Micrococci.—The latest fancy is that gonorrhœa is due to specific micrococci. So the urethra is plugged with a half-foot germicidal bougie, which is allowed to melt while the patient lies on his back. Then the gonorrhœa is cured in the usual way with boracic acid or a two-grain injection of sulphate of zinc. The brilliancy of this process is shown by the fact that in favorable cases the disease is "arrested" at the end of one or two weeks.

Our Natural Life.—Dr. Farr, who is perhaps better able than any other authority to give an opinion upon this point, has estimated the natural lifetime of man to be a hundred years. Old age may be said to commence about sixty—with some a little earlier, with others a little later.

A Quintet of Babies.—On September 18th Mrs. Hazzard, of Monticello, Ill., is said to have given birth to five children. They were all alive at last accounts.

Professor Giovanni Polli, of Milan, died recently after a long illness. Professor Polli is best known for his researches upon the subject of fermentation. The value of sulphurous acid, the sulphites, and of boracic acid as anti-fermentatives, was shown by him.

Professor Rizzoli, of Bologna, recently died at the age of seventy years. Just previous to his death he had made a donation to the city of Bologna of 1,250,000 francs, for the erection and maintenance of an orthopedic hospital.

Pilocarpine in the Treatment of Intermittent Fever.—The experience of Dr. A. L. Davis does not confirm the virtues of pilocarpine in intermittent fever, alleged by Dr. Griswold. It sometimes aborts the attacks, but oftener makes the patient so sick and prostrated that his condition is worse than if he had had the chill.

A Kidney was Extirpated recently at Charing-Cross Hospital by Mr. Barwell. The patient was a girl of sixteen, who had long suffered from severe suppuration, which had greatly reduced her strength. The kidney was large, weighing six and three-fourths ounces, tuberculous and suppurating. Since the operation the patient has been doing well.

Vitality of Spermatozoa.—In a mixture devised by Byasson, spermatozoa have been kept alive for twelve days, at a temperature of 36° C. The mixture is composed of: water 1,000 grammes, the white of one egg, and fifty-nine grammes of phosphate of soda. The liquid makes a useful injection in cases where sterility is due to excessive acidity of the utero-vaginal secretions.

Progress of the Provident Dispensary System.—The Hospital Out-patient Reform Committee of the British Medical Association have made their report through the chairman, Mr. Timothy Holmes. It is the opinion of the committee that the out-patient departments of the hospitals should be abolished for the most part, as they now exist, and should be made only consulting-rooms. In order to render this possible, however, some provision must be made for the poor who have been flocking to these institutions for so many years. The committee propose a scheme which shall secure the co-operation of the great friendly societies in founding a large institution or confederation of provident dispensaries. The plan for this has been fully matured, and steps are now being taken to carry it out.

With regard to the question of the abuses of medical charities, the committee give it as their opinion that the out-patient departments of the hospitals and the dispensaries will never be adequately reformed until the working classes can be made to see that ordinary illness, like other accidents of humanity must be provided for by their own exertions, and that it is only under special emergencies that charity ought to be brought into play; and until the medical profession can be brought to see that a great proportion of the ailments which are now treated in the dispensaries are unfit for such treatment, and can only be successfully managed by medical men having the same relation to their patients as private practitioners have in other classes of practice.

Therapeutic Uses of the Bromides.—Rosenthal gives the following summary on this subject:

Bromide of potassium ought to be frequently suspended, because it produces loss of tone in the stomach, debility, and precordial pains. While it, in small doses, increases the appetite, in large doses it disturbs it, and consequently should be given largely diluted with milk.

Bromide of sodium is a preparation very salt and better tolerated by the stomach, and should be given in preference to old people, nervous people, and children.

Bromide of ammonium is good in epilepsy and affections of the glottis, but is not superior to the other bromides.

Bromide of camphor moderates the action of the heart, and is good in alcoholism, in doses of fifteen to thirty grains.

Bromide of zinc can not be given in pills and is inferior to the other bromides.—*Va. Med. Monthly.*

In New York the favorite bromide is, probably, bromide of sodium. The fact about the bromides is, that one is just as good as another, the difference being in strength, not in quality. By varying the dose of bromide of potassium, for instance, nearly all the effects of the other bromides can be obtained.

Lengthening the Lecture Courses of Medical Colleges.—The Medical College of Virginia announces that its annual lecture course will now continue for nine months. It adopts the graded system also. A similar extension of time is to be adopted, it is said, by the Medical College of the University of Virginia.

Ergot in the Dysentery of Children.—Twenty-one cases of dysentery of children, reported by Dr. G. L. Magruder, of Washington, were treated with fluid extract of ergot, five to twenty drops four or five times a day. Almost every case immediately responded to treatment, and was either entirely relieved or much improved.—*Va. Med. Monthly.*

Another Medical College.—The Memphis Hospital Medical College and Medical Department of the Southwestern Baptist University, has been established, to the gratification, it is suggested, of the profession and students of the Southwest. Its location is opposite the City Hospital of Memphis, which institution it will utilize.

A Case of Counter-Prescribing on the part of a Chicago druggist is reported by the *Chicago Medical Review*. A lady asked the apothecary's clerk for a dose of chloral hydrate. The young man gave her two hundred and forty grains. She took the dose and was barely rescued from death by the efforts of a physician.

Treatment of Chronic Eczema.—Avoid the use of soap as this is irritating. Twice a day, bathe the part in an aqueous solution of borax, one ounce to the pint. Dry without friction and freely apply the benzoated zinc ointment, then bandage the part firmly with old dry muslin which has been previously wet with a saturated aqueous solution of borax. Over this apply a bandage of oiled silk in such a manner as to exclude the air perfectly. Let the bowels be kept regular. In the majority of cases eczema can be promptly cured by the simple exclusion of air. Eczema of the fingers will generally yield in a few days if the air be excluded by the ordinary rubber cot.—*Chic. Med. Rev.*

Death of Dr. Frank H. Davis.—We regret to learn of the recent death at Chicago of Dr. Frank H. Davis, son of Dr. N. S. Davis. He was a young man, and gave great promise of success in his profession.

THE CAUSE OF MISS NEILSON'S DEATH.—The London *Times* of August 26th publishes the following letter:

I take the liberty of asking room in your columns for a word in regard to the death of the lamented Miss Neilson. For the last five years I have had the charge of her health during her visits to Paris, one of the treatments running through a period of four months. The disease from which she suffered principally was gastralgia—one of the forms of dyspepsia attended with neuralgia of the stomach, a form extremely fantastic in its coming and going, and, in her case, quite as dependent on moral causes as on errors of diet. The last fatal attack in the Bois de Boulogne was evidently one of her usual attacks of gastralgia, which might have been relieved then, as it often had been before, by a free use of morphine. The unfortunate lady sent her maid for me at 7 o'clock, but to my great regret I was absent that evening on a visit to my family in the country, and did not hear of her illness till I heard of her death. At 3 o'clock in the morning, twelve hours from the commencement of the attack, during a most violent recurrence of the pain, she suddenly ceased to complain, went into a state of syncope, and died in the syncope. The post-mortem examination made the next day by Dr. Brouardel, Professor of Legal Medicine at the Medical School of Paris, and now one of the first authorities in Europe in legal medicine, disclosed the extraordinary fact—one of the rarest in the history of medicine—that in her writhing she had ruptured a varicose vein in the left Fallopian tube, and had died from internal hemorrhage. Two quarts and a half of blood were found in the peritoneal cavity, and the ruptured vein presented an orifice of from four to five millimetres in diameter.

Very truly, etc.,
W. E. JOHNSTON, M.D.

NO. 10 BOULEVARD MALESHERBES,
PARIS, August 22d.

DR. J. MARION SIMS has recently been decorated with the order of Leopold I. by the King of Belgium. The decoration was offered him seventeen years ago, but the American minister refused to let him receive it because of the doctor's Southern sympathies.

DR. A. BARTOL ON THE LATE DR. JACKSON.—The hand or the mind he had in those two most important of modern discoveries, telegraphy and etherization, is the subject of a controversy never put quite at rest, and which I have no wish to revive, although, now he is gone, it deserves some reconsideration more impartial and judicial than, in the conviction of many of his friends, it has yet received. Particularly in regard to anæsthesia, there must be men living, once his intimate associates, who, so far as they know the circumstances, ought as witnesses to take the stand.

He was a man whose self-respect did not allow him to waive his own claims, and of course his attitude could not please those who were inclined to reduce them to the lowest point; but never was a more honest person than he, and it were a shame to be prejudiced by anybody's ingenuous consciousness of his merits against their well-grounded truth. I am aware of the point made that there is no actual invention without a demonstration to the eyes and application to use. Says Dr. Paley, writing on a different matter: "He only discovers who proves." But practical men carry this dogma too far when they disparage as worthless the original suggestions but for which no experiment would have been instituted, far less issued in success. At the time of the strife, in a public and published discourse, with such lights as I had, however feeble by publicists they may be held, I was constrained to assign the inventive merit as to the use of sulphuric ether to him.

But Dr. Jackson was simple as a child, and veracious like the sun; and when I asked him if he at the outset had foreseen the immense consequences of his theory in surgical operations without pain, he replied that in the imperfect starting of such a business no man could; and I suppose no complete horoscope of deduction did even Newton or Kepler hold!

BATHING AFTER MEALS.—Two cases, reported by Dr. Naegli in the *Swiss Medical Journal,* illustrate the truth of the prevalent belief that it is dangerous to go in bathing when the stomach is full. The cases were alike in their history. One was that of a boy of fourteen, who ate a hearty meal and then went in the water for a bath. While swimming along with a comrade, he suddenly gave a cry and sank under the water. He was speedily brought out on shore and the usual means of resuscitation employed. These utterly failed, however. Fearing some obstruction, the boy's trachea was opened and pieces of food were found in it. These were removed in part; but it was not sufficient, and the boy died. The other case had a similar history. At the *post-mortem* a portion of the contents of the stomach was found in the trachea and bronchi.

DEATH OF DR. HEBRA.—The funeral of the distinguished dermatologist, Baron von Hebra, whose death occurred recently, was very largely attended by his many friends. The ceremony was, by his wish, quiet and unostentatious. Many wreaths and crosses were piled upon his tomb. His students added to these one of great size, bearing the inscription:

> "Wer im Gedaechtniss seiner Lieben lebt,
> Der ist nicht todt, er lebt nur fern,
> Todt ist der, der vergessen wird!"

ENGLISH PHYSICIANS ADVOCATING CREMATION.—At the last meeting of the British Medical Association a paper was read on cremation. At its conclusion a memorial was drawn up, addressed to the Home Secretary, and praying that permission be granted for the practice of cremation. The memorial is signed by Mr. T. Spencer Wells and many other prominent physicians and surgeons.

ANTISEPTIC INCISION OF THE KNEE-JOINT.—A paper on this subject was read by Dr. G. R. Fowler, before the Kings County Medical Society, August 17th. Basing his remarks upon sixty-six collected cases treated by the Listerian method, he comes to the following conclusions regarding the favorable effect of that method upon the operation:

1. The total mortality in excisions of the knee-joint has diminished about one-third since the introduction of Listerism into surgical practice.
2. The majority of the fatal cases operated upon antiseptically died of a pre-existing disease or complication.
3. Fatal cases directly referable to the operation, and from causes such as are now considered preventable by antiseptic treatment, are reduced fully fifty per cent.

Statue to Dr. Paul Broca.—The Anthropological Society of Paris has appointed a committee to collect subscriptions for a statue to the late Dr. Paul Broca.

Post-partum Hemorrhage.—Dr. J. T. Crow, of Carrollton, Ill., writes: "I wish to ask Dr. Forest, first, how much of the effect (in his cases of post-partum hemorrhage, reported in the Record of September 4th) was due to the iodine, and how much to the alcohol of which the tr. iodine is largely composed? Second, I wish to ask Dr. F. and others to try injection of alcohol in post-partum and other hemorrhages; for, if it will answer the purpose as well as tr. iodine, it is certainly as little hurtful, and much more apt to be found quickly when needed, especially in country practice."

American Academy of Medicine.—The fifth annual meeting of the Academy will be held in Manning Hall, Brown University, Providence, Rhode Island, on Tuesday, September 28th, at 4 P.M. The address of the President, Dr. Frederick D. Lente, of New York, will be delivered at 8 P.M.

Another Medical Journal.—The *St. Joseph Medical and Surgical Journal*, a monthly journal, edited by Dr. J. P. Chesney, has been sent to us. It intends to be the exponent of the legitimate medical thought and practice throughout the great Northwest. The editor writes his salutatory with vigor and good sense.

The Audiphone and the Vulcanite Denture.—It has been found by Dr. Osman, of Baltimore, that in deaf persons with false teeth the vulcanite denture acts better than a gold or silver plate, when the audiphone is used. This conclusion is confirmed by Dr. Lawrence Turnbull. The latter gentleman says, as to the alleged injury which vulcanite plates cause, such as increasing deafness, producing irritation, etc., that such things have not come under his observation. Regarding the success of the audiphone, he says: "It has been stated by the agents of the inventor that in the city of Philadelphia about sixty deaf individuals have been benefited by the audiphone, and now employ this means of improving their hearing. This number, I judge, has been much reduced of late, and the few, to my personal knowledge, who continue to employ the instrument probably do not exceed five. Some of these are decidedly benefited by its use, and are able to enjoy the comforts of home—even a baby's voice, which they never heard before. In one case, a reporter, from his being able to hear with this instrument, has been advanced in his profession, showing that it certainly increases the acuteness of hearing." In ten cases of deafness tested by Dr. Turnbull, only one was improved by the audiphone, while six could hear better with the ear-trumpet.—*Phila. Med. Times.*

A Distinction in Infanticides.—The law in Schwetz, Switzerland, as just adopted by the local legislature, very singularly makes a distinction between legitimate and illegitimate children. The crime of infanticide will be punished with death only when the victim is a child born in wedlock.

Death of Dr. Wm. W. Williams.—The death is announced of Dr. W. W. Williams, at Cheltenham, August 6th, at the age of 65. Dr. Williams was for many years honorary secretary of the Medico-Psychological Association. He was intimately connected with the establishment of the present lunacy system in England.

Two Abortionists and one herbalist in England have recently been convicted of murder and sentenced to imprisonment for life.

Richard Wiseman on Immediate Amputation.—In the middle of the seventeenth century, Richard Wiseman, Chirurgeon to Charles II., laid down the following rule regarding immediate amputation. It will be seen that he anticipated the conclusion which, after long discussion, modern surgery has reached: "In heat of Fight, whether it be at Sea or Land, the Chirurgeon ought to consider at the first dressing, what possibility there is of preserving the wounded Member, and, accordingly, if there be no hopes of saving it, to make his Amputation at that instant whilst the Patient is free of Fever," etc.—*Annals of Anatom. and Surg. Society.*

Metallo-Therapy for Diabetes.—Iron, according to M. Burk, one of the apostles of metallo-therapy, is the metal which, taken internally, relieves diabetes. A case is related illustrating this action. A diabetic patient, who had already lost one eye from cataract, put himself under a course of treatment at Vichy, drinking the waters of the Lourdy springs. His health improved in every way, and he was enabled to live for many years. M. Burk reasons as follows: The Lourdy spring contains iron; iron is the metal which relieves diabetes, and hence metallo-therapy is entitled to the honor of the cure in question.

State Provision for the Families of Medical Men.—Some time ago a proposal was made in the Chamber of Deputies of France that the state should make some regular provision for the families of medical men who died from diseases contracted while in the exercise of their profession. A commission was appointed to investigate the matter. It did so, and reported favorably to the project. There were great prospects that it would become a law. Recent journals, however, state that the Minister of the Interior does not approve of the plan, and it has been laid aside, therefore, for the present.

A Case of Acute Pneumonia is reported in the St. Louis *Courier of Medicine*, where the temperature reached 110°. The patient recovered.

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Books Received.

The Care of the Insane and Their Legal Control. By John Charle Bucknill, M.D., F.R.S. London: Macmillan & Co. 1880.

The Brain as an Organ of Mind. By H. Charlton Bastian, M.D., F.R.S New York: D. Appleton & Co.

Tumors of the Mammary Gland. By S. W. Gross, M.D. New York D. Appleton & Co.

Action of Drugs on Secretion of Bile. By Wm. Rutherford, M.D F.R.S. Edinburgh: A. & C. Black.

Treatise on Therapeutics: Trousseau. Vol. ii. Wood's Library: W. Wood & Co.

Supplement to American Dispensatory—Practical Lithotomy and Lithotrity. By Sir Henry Thompson, F.R.C.S. Philadelphia: Presle Blakiston.

Medical Education and Practice in All Parts of the World. By H. J Hardwicke, M.D. Philadelphia: Presley Blakiston.

Dose-Book and Anatomist. C. H. Leonard, M.D., Detroit, Mich.

Dunglison's School Physiology. Philadelphia: Porter & Coates.

Nature and Treatment of Syphilis. By C. R. Drysdale, M.D. London Balliere, Tindal & Cox.

Organic Materia Medica. By L. E. Sayre, Ph.G. Detroit, Mich 1880.

Index Catalogue of the Library of Surgeon-General's Office. Vol. I.

Bile, Jaundice, and Bilious Diseases. By J. Wickham Legg. Fello Royal College of Physicians, London. New York: D. Appleton Co. 1880.

Hygene and Treatment of Catarrh. By Thomas F. Rumbold, M D St. Louis: Geo. O. Rumbold. 1880.

Original Communications.

HISTORY OF THE BLOOD-CORPUSCLES AND THEIR RELATION TO THE MARROW OF BONES.*

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The knowledge of the human body, the preservation of health, the recognition and cure of diseases, are objects of too great importance to mankind for me to doubt but that any attempt to promote them, however small, would meet with a candid and indulgent reception from the profession. An inquiry into the intimate nature of the blood, more especially of its corpuscles, it is presumed, will be thought in a particular manner interesting, since there is no part, no organ of the human body, upon which more physiological reasoning has been founded, nor any from which more inferences have been drawn for the detection and treatment of disease. And as the inquiry is made from the accumulated observations and experiments of centuries, aided mostly by those of the last ten years, it is hoped that the conclusions made from them will meet the test of a candid examination, and lead to further observations and discoveries—"tempora mutantur et nos mutamur in illis." The saying attributed to Cuvier, "le sang est chair coulant," expresses very fairly our appreciation of the relations that subsist between the blood and other tissues of the body. A change in the former, we know, almost necessarily involves a change in the latter, and each of the vital actions of the latter exerts some influence on the former. It is manifest, therefore, that an acquaintance with it is absolutely essential to the phenomena wrought in the tissues by disease; and if any evidence of the life of the blood is wanting, it will be abundantly furnished by the properties of the corpuscles, which I shall shortly describe quite independently of those vital endowments so beautifully shown by Hunter,[1] Beale,[2] Cohnheim,[3] and others. Well, indeed, might Harvey[4] describe the blood as the "vital spark," to which every other part of the body is more or less subservient, the "first to live, the last to die."

Each successive addition adds to our knowledge; the result of all our worthier subsequent inquiries, the sum of all the best ascertained facts up to the present day, have either but confirmed or added to Harvey's masterly proofs of the importance of the blood. Now, it might be interesting, perhaps, to give an elaborate account of the ideas men early entertained respecting this important tissue; but as most of these are so absurd, and the labor to collect them so great, it may here be agreeably dismissed. Suffice it to say, however, that not only was the circulation totally unknown, not even suspected by them, but the blood itself held no place of any value in the curious speculations that formed the basis of their systems. Its existence in the economy was regarded rather as an accident than as a means of nutrition, and the vessels in which it is contained were supposed to subserve quite a different end. Hippocrates[5] did not discriminate at all between arteries and veins. Aristotle[6] did recognize the difference, but yet held the blood as subsidiary to the vessels. He differed from his predecessors in maintaining that the veins arose in the heart,[7] while they maintained that they arose in the head. Galen endorsed essentially the same ideas, except that he looked upon the liver as the source of the veins.[8] So great was the authority of these men and the reverence for them during the middle ages, that none dared to dispute them, and their empty assumptions held their ground. Even Mondino,[9] who dissected at Bologna, 1315; Achillini,[10] Scarpa,[11] and Messa,[12] in Italy; Sylvius[13] and Stephanius,[14] in France; Vesalius,[15] a native of Brussels; Fallopius,[16] his successor at Padua, and Eustachius,[17] said naught to contradict them. The unfortunate Servetus, 1552, was the first to distinctly speak of a circulation now termed pulmonic; but the value of this truth is, in his work, much clouded by the traditional fancies of the age concerning the "vital spirit." For this assertion, Servetus and his book, "Christianismi Restitutio," were burned the following year, and only two copies of this curious book are now extant. His discovery would, no doubt, have fallen into oblivion, had not Rialdus Columbus,[18] 1559, publicly corroborated it. Light was now dimly dawning upon anatomists, and it seems queer to us, in this progressive age, that when, besides the above. Andrew Cesalpinus[19] noticed the swelling of veins below ligatures, and Fabricius,[20] of Acquapendente, showed that the valves of veins discovered by Sylvius opened toward the heart—it seems queer, I say, that Fabricius did not discover the circulation, but left that glory to be reaped by his pupil, William Harvey,[21] 1616–1628. So true is it, observes Cuvier, "that we are often on the brink of a discovery without suspecting it;" so true is it, I might add, that a certain succession of time and of persons is generally necessary to familiarize men with one thought before they can advance to that which is next in order. The immediate reception of Harvey's[22] discovery was not at all gratifying to him, and it was not until 1658, when the blood-corpuscles were noticed, that men began to consider the blood as ministerial to high agencies in the economy.

This detection of the blood-corpuscles by Swammerdam[23] in the frog, brought about by the introduction of the microscope into anatomical researches, was the starting-point of all modern investigations concerning the cellular elements of the blood, and as it is these in their morphological transformations, in their dependence on other constituents, other organs of the body, their significance and value in disease, and their intimate relationship with pathological processes and conditions, to which my subsequent pages will be devoted, I cannot do better than to give a brief *résumé* of the analysis of the blood as taught by the ablest and most authoritative physiologists of the present day. Then we can proceed to consider more aptly from early up to recent times the evolution of ideas regarding the blood-corpuscles as "morphological values," their birth and development, their relation to certain peculiar diseases, and the observations and facts corroborative of these. The blood essentially consists of cells and a fluid intercellular substance; the former constituting the cruor or corpuscles, the latter the plasma or liquor sanguinis. The proportion of these to one another is: plasma, 487; cruor, 513[24]. Now, the plasma[25] is composed of fibrin-forming elements,[26] albuments, salts, water; the cruor of corpuscles. The approximate quantity of these may be seen from the following compilation:

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* Inaugural thesis, to which the Alumni Prize of the Medical Department, University of Pennsylvania, was awarded.

[1] Hunter: On the Blood. Philadelphia, 1817.

[2] Vital Movements: Beale. Lancet, vol. i., 1875, p. 433.

[3] Virchow's Archiv, vols. xl. et xlv.

[4] Harvey: Exercitat. de Generat. Amsterdam, 1662, p. 195: Trans. by Willis. London, 1847, p. 376.

[5] Sprengel: Geschichte der Arzneikunde, vol. i., 383.

[6] Aristotle: De Spiritu, v., 1,078.

[7] Aristotle: Hist. Animal., vol. iii., p. 3.

[8] Sprengel: Op. cit., vol. ii., p. 152.

[9] Encyclop. Brittan.: Art. Anatomy, p. 692.

[10] Ibid.

[11] to [14] Encyc. Brit., loc. cit.

[15] to [17] Cuvier: Leçons sur l'histoire des sci. nat., p. 21.

[18] Encyc. Brit.: loc. cit.

[19] Ibid.

[20] Cuvier: Op. cit., p. 14.

[21] His work was entitled: Exercitatio Anatomica de Mortu Cordis et Sanguinis. Frankfort, 1628.

[22] Account of Harvey's claims. Vide Gamgee: Lancet, 1878, and Huxley's Pamphlet, London. 1878.

[23] Milne-Edwards: Leçons sur l'anat. et physiol. comp. Paris, 1857, vol. i., p. 41.

	Flint.[27]	Dalton.[28]	Kirk.[29]	Carpenter.[30]	Pepper.[31]
Corpuscles	125	128	131	133	120
Albumen	71.5	75	70	68	70
Fibrin	2.5	3	2.2	2.1	3
Water, salts, and extract.............	801	794	796.8	796.9	807

So much for the general analysis of the blood, as we will now direct our attention to the corpuscles, red and white, with which our subject is more intimately connected.

These, from the singularity of their appearance and organization, have attracted an unusual share of attention, and have been the subject of almost innumerable observations and experiments. They were discovered by Swammerdam in 1658, afterward by Malpighi[32] in the hedge-hog, in 1661, who at first thought them to be globules of fat. Leeuwenhoek, in 1673, detected them in human blood and examined them very critically, and it was from this time that their study commenced in earnest. They were first described as globules floating in the liquor sanguinis; but, as observations were multiplied, errors and absurdities were advanced *pari passu*. Leeuwenhoek himself invented a fanciful hypothesis, which had a long and powerful influence over the most enlightened of physicians—that the red corpuscles of the blood were composed of a series of particles descending in regular gradations: thus, each corpuscle was supposed to be made up of six particles of serum, and each particle of serum of six particles of lymph, etc., etc. This hypothesis,[33] for which to our mind there is not the slightest foundation, was so suited to the mechanical genius of the age that it formed the basis of many learned speculations, and even a feature in some pathological ideas of Boerhaave. It maintained its hold until the time of Haller, when it was replaced by another one.

Next to the observations of Leeuwenhoek, those of Hewson[34] were the most elaborate, and had at least the appearance of great accuracy. He described the "red particles" as consisting of a solid centre surrounded by a vesicle filled with a fluid. He informs us that by adding water to them they swell out. He also mentions the effect of chemical agents on their form,[35] etc. Hunter differs essentially from Hewson in his account of them. He is silent respecting the nucleus and investing vesicle. He does not regard them as solid bodies, but as liquids possessing a central attraction, which determines their figure. The red corpuscles were also examined by Torré,[36] Monro, and Dr. Young.[37] Torré supposed them to be flattened, annular bodies composed of parts cemented together. To Monro they exhibited the appearance of circular flattened disks with a dark spot in the centre—due, he conceived, not to a perforation, as Torré had imagined, but to a depression. The account which Young, 1813, gives, corresponds to that of Hewson. He remarks that if the "globules" be viewed by a strong light, they will appear like simple transparent spheres. He found that in the human subject they were flattened and have a depression in the centre,[38] as described by Monro.

The form or shape of a mature red corpuscle is circular and flattened—a disk, first noticed by Hewson, but afterward denied, and only established by Young as above mentioned. This disk is rounded at the margin, biconcave or flat on the broad surfaces, most generally the former. It is this biconcavity which produces the central spot that caused so much perplexity among the earlier observers. Some, as before mentioned, insisted that it was a nucleus, others that it was a hole, and hence the corpuscle a ring. But now we know that, by watching the corpuscle roll over on its edges, it will be seen that the central spot is but a depression. This can be made to disappear by the addition of a fluid. The brightness or darkness of the spot is merely dependent on the focus of light. It must be remembered, however, that in 1827 Dr. Hodgkin and Mr. Lister[39] made the statement: "Our observations are at variance with the opinion long since formed by Hewson, that these particles consisted of a central nucleus enclosed in a vesicle composed of colored matter, and which, though refuted by Dr. Young, has since, in a modified form, been revived in England by Sir Ed. Horne and Bauer,[40] and by Prevost and Dumas[41] on the continent. This is their statement, which refers to their examinations of the human blood-corpuscles, and so accurate was it that it ought at once to have dispelled forever any more belief in the imaginary nucleus of the blood-disk of man. Still, it does not appear that their observations were pushed far enough to enable them to perceive the accuracy of Hewson's statement; for, while they had examined mammalian blood, he had investigated that of oviparous animals. Thus it was that all parties were left to the bewilderment of half-truths—so fruitful a source of error, so conscientious in themselves, but still so confounding. For the descriptions of all them were correct and real when confined, as they ought always to be, to the same class of animals.

The red corpuscle of man and other mammalians has no nucleus—nothing so evident as that seen in the corpuscles of the oviparous vertebrates. The mistake of describing a nucleus in the red corpuscle of the mammalians arose from the central spot, due to biconcavity and varying focus, and from the observers applying what they so plainly saw in the ovipara to man and mammalia. And this error prevailed to the year 1839, though Gulliver[42] had endeavored to correct it, while Müller,[43] Krause, Gerber,[44] and others had satisfied themselves that the nucleus existed in the red corpuscle, and Prof. Wagner[45] was expressing doubts on the subject. In England, Dr. Martin Barry was publishing his engravings in the Philosophical Transactions, of what he regarded as positive proof of this nucleus, and the same idea was confidently asserted in Dr. Todd's Cyclopædia of Anatomy. Lastly, in 1842 and 1845, Donné[46] on the continent, and Mr. Wharton Jones[47] in England, fully acquiesced with Dr. Gulliver[48] as to the fact of the difference in question between the mammalian and oviparous blood-corpuscle, and thenceforth this important subject—"the vexed question of a nucleus," as Mr. Jones appropriately termed it—was finally settled. And it is no wonder that such mistakes were made, for we can now readily understand, with our improved microscopes and more thorough knowledge of optics, that the corpuscle being biconcave, the foci of its centre and periphery are not at the same point, and hence, that when one is bright the other is dark; that when the object-glass is "beyond the focus," the periphery is clearest and brightest, and the centre, no longer in focus, is dark; and that when the objective is "within the focus" the centre is bright and the periphery dark.[49]

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[24] Leidy: Anatomy. Philadelphia, 1861, p. 341.

[25] Vide Kirke, Carpenter, Marshall, Dalton, Flint, Kuss: Art. Blood.

[26] Fibrinogen, fibrino-plastin, and fibrin-ferment; Forster's Physiol.: Art. Blood. London, 1878; Kuss: Phys., p. 1.0.

[27] Flint's Physiology, 1866, p. 138.

[28] Dalton's Physiology, 1875, p. 257.

[29] Kirk's Physiology, 3d edition, p. 54.

[30] Carpenter's Physiology, Clymer's edition, p. 429.

[31] Pepper's Pathology. Lectures, Univ. of Penn., 1877.

[32] Malpighi: De Visc. Struct. Accedit. Dissert. de Polypo Cordis. Bonn. 1669, p. 156.

[33] Leeawenhoek: Philos. Transact, 1674, No. 23; Edinburgh Med. Essays: Martine, vii., p. 74.

[34] Philos. Transact, 1773, p. 303 et seq.; Hewson: Experimental Enquiries, chap. i.

[35] Hewson's Works: Sydenham Soc. London, 1846, p. 274.

[36] Torré: Epist. ad Haller (1759). Bonn, 1774; Phil. Trans., 1765, p. 252.

[37] Young: Med. Liter. London, 1813.

[38] Young: Med. Liter. London, 1854.

[39] Philosoph. Magaz. London. 1827, vol. ii., p. 131.

[40] Philosoph. Transact., 1818 20.

[41] Magendie's Journal de phys. et bibliot. univ., 1821.

In the course of these inquiries, it might have seemed insignificant and of no consequence whether the red corpuscle had or had not a nucleus; but when it is evident that it rises to the dignity of a comprehensive truth—namely, that mammalia, camelidæ and auchenia excepted, do not have it, while all oviparous vertebrates do have it, its value can be appreciated.

For many years the red corpuscles were indisputably held to have a definite cell-wall; but some time past, notably in the last few years, a change in opinion has been made, and now in most of the text-books on physiology it is expressly stated that they do not have one. The peculiarity and persistence of the form of these corpuscles, their behavior on the application of pressure, and the presence of one line only to distinguish the difference in density of the contents of the cell and its surrounding medium, when two should exist—namely, one to denote the difference in density or degree of refraction of the cell contents and its wall, and a second to show a like difference between the cell-wall and its surrounding medium, whatever that may be—are certainly in favor of the latter view. Investigations of Dr. Jos. G. Richardson[50] seem to go to contradict this view and to hold to the old.

The conclusions reached by him were based upon observations on human corpuscles, and on those of the menobranchus or proteus. Objective used, $\frac{1}{50}$ inch. He states and clearly proves the corpuscle to be composed of "hæmato-crystallin freely soluble in water," and a second substance, "whitish in hue and insoluble in water." But when he considers this latter as constituting a cell-wall, it is then that we cannot but differ from him. He bases this view on the appearance presented by the crystals of hæmato-crystallin, or, as he says, "the folded edges of the capsular membrane will be seen supported by the crystals like a washerwoman's clothes-line upon its prop." This, after many trials, we have been unable to see. Again, he remarks that he broke the cell-wall by means of fine needles, when immediately the hæmato-crystallin passed out and the "cell-wall immediately shrunk together and became twisted on itself." Again, he thinks that "the wrinkled appearance" presented by drying, and the swelling and change of form produced by the absorption of water in the corpuscles, prove to him conclusively the existence of a cell-wall.

The criticism of Dr. Richardson's deductions, ably stated by a reviewer, lies in this: "that because these phenomena are compatible with the supposition that there is a cell-wall to the corpuscle, he thinks they cannot be compatible with any other view." For the form of the corpuscle produced by the crystallization of the hæmato-crystallin is just as compatible with the non-existence of a cell-wall as his view is. So also the "wrinkled appearance," which will adapt itself to any theory that acknowledges absorption of a liquid. And lastly, the "twisting or dimpling in" does not in the least disprove the existence of a "sponge-like" stroma (Rollett).

Indeed, the explanation of Rollett[51] of the structure of the corpuscles is most consistent with the observations of microscopists. He considers the corpuscle as formed of "oikoid" (analogous to stroma), which takes up the hæmato-crystallin in solution—but that there is no cell-wall. That something—name it "stroma," "oikoid," "shell," which you please—does remain when the coloring matter is dissolved out, no one can deny. This is better named structureless, jelly-like "frame-work," which it may, but to us undoubtedly is, though Dr. Richardson considers it to be the cell-wall. Without disputing the accuracy of his observations or the sincerity of his belief, we are yet inclined to maintain that the red cells are without a wall. And in this view we but follow that of the highest authorities of the day. Thus, Schaeffer[52] states that "they present a perfectly homogeneous appearance; but by reagents it is visible that they are composed of a stroma which is colorless and gives shape to them, and a coloring-matter hæmoglobin which can be crystallized." Again, Frey[53] observes that "they display but little variety in size or contour;" "that they are sharp, delicate, without a cell-wall." And further, "a cell-wall is certainly not present in the blood-corpuscle as their spherical segmentation indicates, and Rollett's discovery, also that two of them may coalesce together by a discharge of electricity." Flint[54] says that the red corpuscles "are perfectly homogeneous, have no nuclei, and are not provided with an investing membrane." "Few, if any, have demonstrated its presence, but only suppose it to exist, because the corpuscle swells by imbibition of fluids." Dalton[55] also remarks that "observations so far display them to be homogeneous; the most careful examinations fail to show the evidence of an external envelope, though authorities such as Richardson and Kölliker[56] still maintain it to exist." Again, Sanderson[57] states distinctly that "the phenomena mentioned of the properties of the corpuscle distinctly show them not to be vesicular." Kuss[58] corroborates these opinions and adds, that "the red corpuscles have no nuclei nor any envelope, but a thin limiting layer condensed by age more than the central parts."

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[42] Gulliver's Lectures on Blood: London Times, 1862. p. 102.

[43] Müller: Elements of Phys. Philadelphia, 1843, p. 146.

[44] Gerber's Anatomy: Art. Blood. London, 1842.

[45] Wagner's Physiology, Willis' Trans. London, 1841, p. 232-244.

[46] Donné: Cours de microscopie. Paris, 1843, p. 70; Comptes rendus, tome xiv., p. 367.

[47] Jones: Proc. Royal Soc., 1845, p. 558; Phil. Trans., 1846.

[48] Gulliver: loc. cit.

[49] Tyson: Trans. Ac. Nat. Sciences. Philadelphia, 1871; Phila. Med. Times. 1871, p. 201: Microscopic Journal, 1871, p. 42; Schaeffer: Pract. Histology. London, 1877, p. 15.

[50] Transact. Amer. Med. Assoc., 1870; Microscopic Journal. London, 1871, p. 17.

[51] Stricker's Histology: Art. Blood, vol. i.

[52] Schaeffer: Pract. Hist., 1878, p. 24.

[53] Frey: Histology: Barker's Trans. London, 1874.

[54] Flint: Op. cit., p. 116.

[55] Dalton: Op. cit., Art. Blood.

[56] Kölliker: Manual of Mic. Anat. London, 1860. Art. Blood.

Now, we have mentioned various views and observations as to whether the red corpuscles are homogeneous without a cell-wall or not, and we have stated our own ideas as to the elasticity of the corpuscles, their persistence in preserving their form, their actions when subjected to pressure and reagents, and we think that the aggregate evidence proves the cell-wall to be absent, and that its existence was inferred rather than proven. But besides the red corpuscles we have also another corpuscle in the blood, to wit, the white. This was first distinguished by Hewson and Senac,[59] 1775, and clearly described by them, but did not attract much attention until Addison,[60] 1843, asserted their importance as parts of tissues and secretions. His views were, however, too far in advance of his age to be rightly appreciated. His observations were followed by those of Wharton Jones[61] and Waller, in 1846; by Von Recklinghausen, in 1863, who studied their amœboid movements; Schultze, in 1865, and Virchow and Cohnheim, 1867, brought them into great repute by their theories respecting inflammation. Since then they have become the objects of microscopic research, and we know them to be of importance, judging not only from their prevalence in the animal kingdom, from their early appearance in the embryo, and from their presence ever afterward in the blood, but from their rôle in disease, their migrations and diapedesis in certain pathological conditions, their transformations in the formation of tissue, repairs, and new-growths, and their enormous increase in some peculiar diseases.

They are more uniform in size and shape than the red corpuscles. They are specifically lighter and circulate less rapidly than these. They creep along the outside of the current and seem to have an especial attraction for the walls of the blood-vessels. In their appearance they are circular and nearly spherical. They have a grayish, pearly[62] look. Robin[63] termed them leucocytes on account of their white appearance, and believed it a good term, because bodies like them were found in the lymph, chyle, semen, colostrum, vitreous humor, saliva,[64] and hence were not peculiar to the blood alone. Flint[65] states them to be filled "with granulations, pale, a delicate outline, and of two or more nuclei." Dalton,[66] that they are destitute of coloring matter, and have a glistening appearance. That they are nearly spherical, and consist of a "soft, viscid, colorless, finely granular" substance, "containing one or more nuclei." The amœboid movement noticed by Recklinghausen,[67] is only evident when they are withdrawn from the vessels. Gulliver[68] considered them to be "pale globules containing a nucleus." And these descriptions of their appearance are in perfect accord with those of the present time, and with our own observations. For Frey[69] describes them "as finely granular, spherical," the granules showing no molecular motion. Beale[70] looks upon them as "masses of structureless germinal matter." Küss[71] observes that it is impossible to say positively what is their exact structure, but that they have a granular surface, and "a peculiar silvery white appearance." And he, with all other observers, agrees in the existence of their nuclei. Dr. Richardson's[72] researches into their microscopic structure are the most complete of any on record, and he considers them as composed of a cell with nuclei, having amœboid movements, insoluble in water. The cell-wall is a membranous envelope, insoluble in water, and too thin to exhibit a double contour line with 1,200 diameters. Its exterior is adhesive, so that surfaces coming in contact are liable to become attached. The nuclei are sometimes not to be distinguished without the aid of acetic acid and water.

The question now naturally arises, that if these morphological constituents of the blood have elicited so much study and controversy, so much investigation, and withal are so important in the economy, what is their origin, their mode of development, of evolution? what is their relation to one another? what bearing do they have on other organs of the body, and what is their significance in pathological processes and morbid conditions? In all vertebrates, two sets of corpuscles are developed at different periods of life: a first set exists until the lymph and chyle-corpuscles appear; a second, which are developed from the last two. The former are simply the embryonic red corpuscles. Now, in order to comprehend the origin of these cells in the embryo, we may first state the outlines of embryology. By the process of segmentation the blastoderm is formed which represents the germ of the future being. Its two or three layers each give rise to distinct tissues and parts of the body. They are the epiblast, the mesoblast, and hypoblast. The mesoblast, with which we are concerned, gives origin to the connective-tissue group, the muscles, lymphatic and vascular systems, and their accessories—hence the blood. The corpuscles and vessels are formed in the germinal area, the area vasculosa, of the mesoblast—the first ones arising from a metamorphosis of mesoblastic cells in the area vasculosa. These, termed "embryonic red corpuscles," are plain, spherical masses of protoplasm, containing a nucleus. They are slightly larger than those of adult life, and appear at the same time as the vessels and heart. The cells of the mesoblast, from which these are developed, are called "embryonic cells," and are granular and spherical. From them the most widely differentiated tissues are developed. Each one appears to have its peculiar mode of expression of vitality impressed upon it, and hence some go to form connective tissue, and others the embryonic nucleated red corpuscle. In their development into the latter they become clearer, and are slightly tinged with hæmoglobin. At the same time that this formation is occurring, lymph-corpuscles are pouring into the circulation from the lymphatic glands. As seen by Remak in the embryo fowl, the nucleated red multiply partly by division. Kölliker noticed the same thing in the mammal (the rabbit); so did Frey and Paget.[73] When, in the development of the embryo, the lymph-corpuscles appear and are added to the blood, they supersede the embryo-corpuscles; and it is noticeable that this occurs in the frog at the time of the disappearance of the external branchial, and in the chick by the closure of the visceral branchial clefts.[74] Kölliker, confirmed by Weber,[75] asserts that this transformation into red nucleated cells can occur in very early fœtal life throughout the entire circulation, but, of course, ceases when the true white corpuscles and the non-nucleated red ones appear. The nucleated red are lost sight of about the third to fifth month of fœtal life in man, though the exact time is not definitely known.

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[67] London Med. Times, 1871, p. 62.

[68] Küss: Op. cit., p. 115.

[69] Op. cit., Art. Blood, p. 253-84; Senac: Traité du cœur. London, 1749, p. 661.

[60] Addison: Experimental Researches on Nutrition. London, 1843.

[61] Jones: Phil. Transact., 1846, part ii., p. 63.

[62] Kirke: Op. cit., p. 52.

[63] Robin: Journal de la phys., vol. ii., p. 41. Nysten's Dict. Paris, 1858—Art. Leucocyte.

[64] 1-9 Richardson.

[65] Flint: Op. cit., p. 122, 123.

[66] Dalton: Op. cit., p. 254.

[67] Recklinghausen: Loc. cit.

[68] Gulliver: London Med. Times, 1871, p. 269.

[69] Frey: Op. cit., p. 113.

[70] Beale: Microscope in Medicine, Art. Blood.

[71] Küss: Op. cit., p. 113.

[72] Microscopic Journal. London, 1873, p. 70: Journal Am. Med. Association, 1872.

[73] Paget: Lectures on Blood. Coll. Surg., London, 1848.

Thus, it is evident that there are two sets of red corpuscles in man and mammalia—a temporary embryonic set, which are globular and have nuclei, and a permanent mature set devoid of nuclei. but biconcave. The former, being slightly larger and less red than the latter, the blood is hence paler in the embryo or fœtus than after birth, a fact observed by Glisson and Needham,[76] 1667, though the claim has been given to Coste and Delpeche.[77] Besides these red, we have also the common white corpuscles. Hence, it seems evident to us that we cannot but be prepared to recognize the embryonic set of red corpuscles of mammalia as the analogues of the mature set of red corpuscles of oviparous vertebrates, while the colorless or primogenial corpuscles are analogous to the pale globules of the blood of adult vertebrates, and to the prevailing or characteristic corpuscles of the blood of many invertebrates. This sustains the fact of a temporary structure (red nucleated embryo corpuscle) in the mammalia, corresponding to a permanent one in the ovipara; so that, in its course toward the highest type, there are temporary phases in which the blood of the mammal is analogous to the permanent state of the blood of oviparous vertebrates and of invertebrate animals.

So much for the corpuscles of the embryo, but we have yet to show the origin of the white corpuscles, a task which is not easy to do satisfactorily. That they are found in large numbers in the lymphatic glands and spleen is undeniable. The fact that in the follicles of these organs corpuscles similar, if not identical with white corpuscles, are to be found, suggests these organs as their birthplace. That they are taken up by the blood as it circulates through these is certain, as proven by the researches of Goodsir, Frey, and His, on analyses of the afferent and efferent blood. Küss, Dalton, Flint, Carpenter, and Forster all agree that they originate in the lymphatic glands, and are subsequently detached from them and find their way via the thoracic duct into the blood. It even is probable that the connective tissue of the whole body is subservient to their formation, as has been shown by Schaeffer in the rat,[78] and we can suppose any proliferating tissue[79] (Klein) to give rise to them. It has long ago been admitted that the liver is a centre for their formation, and more recently the same function has been claimed for the muscles. That the liver was regarded as an organ for their production is to be explained by the fact that more white corpuscles in comparison to the red are found in the hepatic than in the portal veins. It only shows, not that they are formed there, but that the red ones are there destroyed and produce the coloring matter of the bile. Whether they originate from pre-existing cells of like nature, or from the lymph *de novo*, we do not know. Klein saw some formed by fission and germination of white cells. That they do not immediately arise in the blood is known, because a free formation of cells does not take place anywhere. Those which he saw dividing probably were from the epithelium of the blood-vessels. Hence, their source must be sought for in the lymphatics and spleen. Having stated the birthplace of the white corpuscles, it remains for us to show their rôle, their value, their function, and use in the economy. They are, we believe, especially devoted to the production of the red corpuscles, and this opinion prevails at the present time. Flint,[80] however, thinks it right to consider that the latter originate independently of the former by a true genesis in the sanguineous blastema. His chief objection to our view is, he says, "that the red corpuscles originate before the white ones, hence they are not developed from them.

But he forgets that the fœtal red ones are formed from the embryonic corpuscles, and that they subsequently disappear to give place to the permanent non-nucleated red ones which appear at the time that lymph-corpuscles are first formed, hence at the time that the white corpuscle is changed into the red. And as they increase, the embryonic red disappear until none remain but the mature, permanent white and red. Küss[81] likewise asserts that their purpose is "to form the red ones." So also Paget,[82] who believed them to be transformed direct into the colored corpuscles, and Gulliver,[83] the English zoölogist, held the same idea. They are, "we may rightly say," observes Frey,[84] "cells which are destined to become red corpuscles." "The colorless serve to replace the red ones." This point was confirmed by Von Recklinghausen's experiments, in which he was able to change, or rather see the change of white corpuscles into the red. The blood used was that of a frog; it was kept in a vessel to prevent evaporation, the air around it was renewed once a day, and in twenty-one days he observed the change above mentioned.[85] Kirke[86] and Foster endorse the same views. Still we are in the dark as to how the change occurred, nor were we better enlightened until Neumann's discovery as to the region of the body in which it happened. In the first place, the embryonal development of the blood, as we have given above, was regarded as the key to the mystery. There we have shown that the red corpuscle in the embryo is developed from the white through the intermediate form of a colored nucleated cell, and it was hence assumed to take place in the adult body. Nor was the hypothesis an unwarranted one, because nucleated red corpuscles had been observed by Wharton Jones,[87] Busk,[88] and by Huxley in a vigorous young man; and Küss[89] states that "intermediate forms between these two kinds in respect to color and form are occasionally found." Since, however, this intermediate cell could not always be obtained, it was held by one faction (Kölliker) that they probably existed in some part of the body not yet examined; another gave up this idea and considered the red corpuscles to be the free nuclei of the white ones. Gulliver[90] first advanced this theory, which was further elaborated by Wharton Jones,[91] and Bennett[92] went so far as to say that the red cells were formed in the lymphatic glands and were only stained when they reached the blood-current. Müller believed them to arise by a fusion of the nucleus, and Funke and Zimmerman held to an endogenous method of production. As none of these views could be satisfactorily sustained, they have been relinquished; and because of the fact that in the spleen-pulp small nucleated colored corpuscles have been found similar to those in the embryo, transitional forms, showing the presence of hæmoglobin with degeneration of the nucleus, together with data above stated, justify us in regarding the red corpuscle to take origin from the white nucleated cell of the blood. In the case of animals with nucleated red corpuscles the change consists in a transformation of the protoplasm of the white cell into hæmoglobin and a stroma in which it is contained. In mammalia whose red corpuscles are without a nucleus, most observers, Kölliker,[93] Schmidt,[94] Neumann,[95] Forster,[96] agree that the nucleus of the white disappears, so that the red represents only the modified cell-structure of its progenitor, being red, denser, smaller, without a nucleus. The same diversity of opinion has existed with reference to the death-place of the red corpuscles; but if we bear in mind that the number of them in the blood varies continually, that the coloring matter of the bile and urine are derivatives of hemoglobin, it follows that an immense number of corpuscles must be destroyed in order to give rise to the amount of bile and urinary pigment daily discharged. And where most obviously would this destruction occur? Would it happen in the spleen, which has no connection with the urinary or biliary secretions, no duct? The finding of large quantities of coloring matter in the latter organ is no proof that they die there, and the abundance of lymphatic gland-tissue in it destined to produce white corpuscles renders it inconsistent to ascribe to the same organ two diametrically opposite functions. No, it is in the liver that the destruction takes place, proven by its glandular structure, by the power of the bile acids to dissolve red corpuscles, and by the analyses of the blood of the portal and hepatic veins; for Bernard, Lehman and McDonnell[97] ascertained that in blood taken from the latter the white cells were five to ten times more numerous than in blood from the former; while Hirst[98] estimated the proportion of white to red corpuscles in the portal blood to be 1 to 524, but in the hepatic as 1 to 136; and Murchison[99] also has shown the blood emerging from the liver as denser and far richer in white corpuscles than that going to it. It has however, always been a matter of the greatest difficulty to determine where the metamorphosis of the white into red corpuscles occurs. Some, on account of the transition-forms found in the spleen, have referred it to that organ. Others have delegated it to the liver, basing their judgment on the resistance the red cells of the hepatic veins, as a proof of their youth, offer to the imbibition of water; also that many red cells in the portal vein are crenated and withered, whereas those of the hepatic veins are never so.[100] These facts, if they prove anything, tend to show that the corpuscles of the portal vein are worn out, rather than that those in the hepatic veins are new; and we have no proof whatever that any new corpuscles are formed in the liver.

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[74] Kirke: Op. cit., p. 70.

[75] Todd & Bowman's Phys. Phila., 1856, p. 262; Carpenter's Physiol., 7th edition. 1869, p. 214; Kölliker: Op. cit., p. 352.

[76] Glisson: Anat. Hepat. London, 1654, p. 411; Needham: De Formatio Fœtu. London, 1667, p. 72.

[77] Delpeche and Coste: Hunter's Works, vol. iv., p. 13.

[78] Royal Society Proceed., 1874, vol. xxii., p. 243.

[79] Anat. Journ. Mic. Sci., 1878, p. 370; Klein: Handbook Phys. Lab., p. 8; Lond. Lancet, 1870, p. 523.

[80] Flint: Op. cit., p. 119.

[81] Küss: Op. cit. p. 114.

[82] Paget: Loc. cit.

[83] Lectures on the Blood: Lond. Med. Times, vol. ii., 1862, p. 188.

[84] Frey: Histol. and Micro-Chem. London, 1874, p. 116.

[85] Archiv fur mikros. Anat., Bd. ii., p. 137.

[86] Kirke: Op. cit., p. 70.

[87] Philos. Trans., 1845.

[88] Microscop. Journal, 1853, p. 145.

[89] Op. cit., p. 114.

The exposé we have thus far given will show that in reference to the adult organism we have at present no positive testimony concerning the development of the blood-corpuscles. Even the most cogent arguments that we have enumerated, and the conclusions deduced, namely, that the white corpuscles arise in the spleen and lymphatics, that they come from the lymph, and may occasionally be formed in proliferating connective tissue, have met with some opposition; and the further ideas relative to the transformation of these white into red ones are not universally adopted, and the controversy referring to the mode of this transformation, its seat, and the fate of the red corpuscles, has been excited, often belligerent, with no evident conclusion on either side. To Neumann,[101] of Königsberg, belongs the credit of having thrown light upon the subject, and also of having inaugurated investigations which have proved of direct benefit to our knowledge of disease. He claimed the marrow of the bones to be an organ involved in the formation of blood-cells. Following him we have had Bizzozero,[102] Eales,[103] Hand,[104] Mosler,[105] and Osler.[106]

Many might be inclined to smile at the idea; but we must recollect that years ago Kölliker had expressed the opinion that the origin of the red blood-cells from the white in the adult would never be demonstrated until nucleated colored corpuscles could be discovered (which Neumann and others have done), and Henle had stated that the blood-changes would probably be found in some structure to which such a function had never been ascribed—no, not even suspected; and such is the bone-marrow. This bone-marrow, until the time of Neumann and Bizzozero, was considered simply to afford a light packing for the bones, and in some unknown manner to be connected with its vitality. Trojas[107] was the first to lay the foundation concerning this latter fact. His experiments were repeated by Koeler and by Cruveilhier,[108] with the same result. These investigations were followed by those of Ribes,[109] Reynaud,[110] Miescher,[111] Porter,[112] Boyer,[113] and Stanley,[114] but they were mostly directed to osteomyelitis. So was it with these of Gerdy,[115] Chassaignac,[116] and Dennie,[117], nothing being positively said about its structure. This was first clearly described by Robin,[118] who believed the structure of bone-marrow consisted simply of a juxtaposition of cells with the interposition of a small quantity of amorphous matter, the proportion of which varied in the different kinds of marrow. Capillary vessels are in this tissue, their meshes being twice the diameter of the capillary vessels around them. The meshes have rounded angles, and are polygonal in shape. They are more numerous next to the bone than at the other parts of the tissue. The finest capillaries found in the marrow he stated to have this peculiarity, that they are larger than the ultimate capillaries of the periosteal and osseous network. In the spongy tissue they were not cylindrical, but seemed like sinuses, and the marrow was in immediate contact with the bone. Here and there in the marrow were found fine laminated fibres in wavy bundles. From these radiated in various and very elegant arrangement fibres, medullary cells, amorphous matter, and capillaries. The fœtal or red marrow, he stated, owed its color to the abundance of medullary cells. It is the accumulation of these cells with capillary vessels and a little amorphous matter that he thought formed the red marrow. This, little by little, passes through phases of development, and is replaced by a grayish, semi-transparent, gelatinous marrow. The change in color was supposed to be due to an increase in the amorphous matter between the medullary cells, so that in this marrow he found the medullary cells more or less separated by amorphous matter, which is homogeneous, semi-transparent, and of a gelatinous appearance. The "gelatinous marrow," as he termed it, had sometimes a grayish, sometimes a yellowish color. When the former, it was said to be due to the absence of fat-cells between the other elements; and when the latter, it was caused by the medullary cells having fat ones between them. In the "fatty marrow" the vascularity was considerably less than in the "gelatinous" or "red" varieties. Now it is the "red marrow," which is found so abundantly in young subjects, and in the flat and short, and epiphyses of the long bones, that we wish to show to be the blood-producing organ in question.

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[90] Op. cit., p. 567.
[91] Med.-Chirurg. Review, 1853, vol. i., p. 533.
[92] Edinb. Med. Journal, 1852.
[93] Loc. cit.
[94] Pflüger's Archiv, vi., 1872, p. 413; also xi., 1875, p. 291.
[95] Archiv der Heilkunde, 1869, p. 68.
[96] Op. cit., p. 27.
[97] Function of Liver. Dublin, 1865.
[98] Müller's Archiv, 1865: Carpenter's Phys., 7th edition, p. 228.
[99] London Lancet, 1874, p. 430.
[100] Eales: Quart. Jour. Mic. Sci., Jan., 1871.
[101] Archiv der Heilkunde, vol. x., p. 68 et seq.
[102] Virchow's Archiv, vol. liii., p. 156.
[103] Loc. cit.
[104] Philadelphia Med. Times, 1872, p. 164.
[105] Virchow's Archiv, 1873, p. 532.
[106] London Lancet, 1878, p. 162.
[107] Exper. Circa Regenerat. Ossium Novorum. Paris, 1775.
[108] Anat. pathologique. Paris, 1816.
[109] Art. Nécrose: Dict. méd. sci. Paris, 1819.
[110] Archives générales de méd. Paris, 1831.
[111] De Inflammat. Ossium. Berlin, 1836.
[112] Path. Condition of Bone: Todd's Cyclop. London, 1836.
[113] Traité des malad. chirurg. Paris, 1845.
[114] Diseases of the Bones. London, 1849.
[115] Archives général., Aug., 1853.
[116] Gazette médic., Aug., 1854.
[117] Archiv für clin. Chirurgie. Berlin, 1862.
[118] Robin: Gazette méd. de Paris, 1865, p. 68.

The first thing noticed by Neumann and Bizzozero was that certain cells in the marrow presented amœboid movements like white corpuscles. These had been seen also by Robin, who had termed them "medullo-cells." Eales likewise described them, and we have repeatedly noted them. They are numerous, and in structure appear to be identical with "leucocytes." Besides these there were noticed other cells structurally like white blood-corpuscles, but having a distinct yellow or red tinge and a nucleus—in short, characters which to us, as well as to Neumann, Bizzozero, Eales, and Hand, seem to place them as transition types between the white and red corpuscles. The peculiarities of these tinged ones are not constant; some appear larger, others smaller; some lighter, others darker; their shape and elasticity also vary. It is on account of this variation that we find a grade of transitional cells from the regular white corpuscle to the nucleated red, on the one hand, and from it to the non-nucleated or mature colored corpuscle of the blood, on the other.

The detailed observations of the marrow of the bones of a cat, as observed by ourselves, and of the marrow in rabbits, as described by Neumann and afterward confirmed by Eales, are essentially the same, and resemble closely those which we have above stated as explained by Robin. In some points we differ; thus, for the simple juxtaposition of medullo-cells that Robin mentions, Neumann proposes the term "medullary tissue," and the nomenclature is good. The capillary network is very close, and the capillaries, as Robin demonstrated, are numerous and large, the meshes being smaller than the capillaries. In fact, the marrow arteries are also smaller than the capillaries in which they terminate. Each artery speedily divides into a bundle of capillaries like a funnel. This arrangement necessarily slackens the current, and hence there occurs an accumulation of cells in those vessels. The tissue contained in the meshes of the vascular network is composed of stellate cells "myéloplaxes" of Robin,[118] thus forming a reticulum, within which are contained in the "red marrow" a large number of "lymphoid" cells, but which are absent in the other marrows. To this red form Neumann applied the term "lymphoid medullary tissue." It is identical to us with the tissue described by Kölliker as cytogenous connective tissue, and later by His as adenoid tissue, and which we find is the essential structure in the lymphatic glands. The "yellow marrow," as Robin asserted, we still find to be without any of these lymphoid cells, but composed simply of its anastomosing cells, the contents of which are fat, and it, to all appearances, looks like simple adipose tissue. The "gelatinous medulla" differs from the red by the abundance of its intercellular substance and by the absence of the "lymphoid cells," whose place is taken up by amorphous matter.

We have thus shown that in the red marrow of the bones we have a tissue abundant in "lymphoid" elements, and resembling, if not identical with "adenoid" tissue, the tissue constituting the lymphatics and the spleen; second, that in the meshes of this tissue there is abundance of capillaries, the peculiarity of which is that their calibre is considerably larger than the arteries immediately supplying them; third, that in these meshes and their capillaries we find "medullo-cells," "lymphoid cells," resembling the white blood-corpuscles, transitional cells which are red and nucleated, true red blood-corpuscles non-nucleated, and between these extremes all shades of transition. Now, with these data, the question at once arises: What is the connection between them? Are the "lymphoid" cells in the blood derived from those in the "medullary tissue," or are the ones in the latter derived from those in the blood? We cannot but believe that the former opinion is the correct one; not that we would wish to assert that all the white blood-corpuscles are formed from the "medullary tissue," but that it takes part in their production, the same as we have shown to be the case with the lymphatic glands and the spleen. These cells find their way into the blood-current by a process of immigration, in a manner the same as in inflammation they find their way out. On casual observation it may be advanced in that case we have the force of the blood-current against us, whereas in the latter the blood-pressure favors the passage of the cells. This, however, is not so; for in the medullary tissue the current is slackened by the widening of the capillaries, which gives time for the "medullo-lymphoid cells" by their amœboid movements to get into the circulation of the medullary vessels, where we find them in great abundance. The idea of an emigration of white cells from the blood into the spaces of the reticulated medullary tissue is absurd, when we think and try to imagine what value they would be to the medulla, what would become of them; their return to the capillaries being improbable, their exit through the delicate lymphatics of the bone being equally so, and more decidedly the hard shell of bone which encloses the tissue of the medulla being especially unfavorable for any such emigration; besides, as shown by

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[118] Diction. des méd.: E. Littré et Ch. Robin. Paris, 1873.

Kölliker, the "myéloplaxes" arise from a proliferation of the smaller "medullary cells," divide again and form a large number of smaller cells, thus demonstrating the bone-marrow to be a seat of great cell-production. If now we add to these the fact that the nutritive changes in so stable a substance as bone being far too small to need so copious a supply of organizable material, we are at once led to believe that the passage of the "lymphoid cells" into the blood-current is inevitable, in virtue of which the medulla of bone acquires an importance with regard to the formation of white blood-corpuscles equal, if not greater than, that of the spleen and lymphatics. But what value is to be placed on the nucleated red cell which we have found here, and which also exists in the embryo, and there acts as a transitional stage of development of the white into the red corpuscle. Is it to be regarded as we find it in the red marrow of bones, as a stage in the transformation of the colorless nucleated into the colored non-nucleated blood-cell?

If it be acknowledged, in accordance with the data given, that the red corpuscles do originate from the white, and that the finding of a red nucleated cell in the adult identical with that seen in the lower vertebrates and in the embryo would place the question beyond dispute, then indeed is the task accomplished. The "variation forms" between the "lymphoid" or white corpuscle, and the nucleated red cell, and of it and the non-nucleated, constitute a series "forming a perfect chain of connection," as Neumann remarks, "without any important break, from the white to the red cells," or, "at least hardly admitting of any other equally satisfactory interpretation," a series the members of which are only comprehensible when viewed as a whole. This series has been variously stated by different observers: Neumann and Eales believed it to consist of nine transitions; Bizzozero of four; but to us five stages will explain all the transformations. We might here state that we used a cat, and the mode of experimentation was to take a rib, a vertebra, or the head of a long bone, cut off a piece, and squeeze it in a vise, which causes a thick red juice to exude, which is put on a slide covered with a glass, and examined by a microscope.

The "transitions" were:

1. "Lymphoid medullary cells," analogous to white blood-corpuscles, granular, of a fatty lustre, sometimes with or without a nucleus.
2. Cells essentially the same, slightly colored, but always with a large "granular nucleus."
3. Red nucleated cells, like those of the embryo.
4. Red cells with a nucleus in a state of granulation.
5. Non-nucleated red corpuscles.

With these cells squeezed out, other elements can be seen, as amorphous matter, the larger medullary or connective tissue, "myéloplaxes," and débris. Now, shall we regard such a series as a mere coincidence, mere accidental phenomena, or rather as expressions, as "equivalents," of the mode of development, of evolution of the most vitalized tissue of the economy—the blood? True it is that we might theoretically expect variations in the corpuscles of the blood (and such is the case within certain limits), when we consider how thin, pliant, and elastic they are; how they must be constantly taking in or giving out fluid, according to their relation in density with that of the blood-plasma. One may see them flat or tumid, cup-like or stellate, notched or corrugated; hence persons, when they have observed these cells in healthy or morbid conditions, often think they have discovered something wonderful or pathognomonic of diseased states, whereas these "unique forms," so to speak, are but accidental variations due to temporary surroundings. Not so with those cells seen in the bone marrow; their transitions are peculiarities of structure, not of form; those are constant, and graded to one another, indicating logical sequence; these temporary, accidental, without morphological relation, the result of evanescent circumstances which have influenced the blood in which they circulate. It is hence that we ask, shall we not consider that a transformation of the "medulla" or "lymphoid" cells, or white blood-corpuscles, which you please, that have been shown to be produced in the red marrow of bones, and to accumulate in its blood-vessels—shall we not consider, we ask—that they are transformed, "metamorphosed" into the red nucleated cells, and thence into the mature non-nucleated red blood-corpuscle? True it is that the origin, development, and evolution of the cellular elements of the blood is one of the least understood of physiological processes; true it is that numerous and varied observations, facts, opinions, and theories, have been maintained regarding the blood-corpuscles, the transformation of the white into the red, and the ultimate fate of the latter; true it is that these have been successively discarded, and have given place to some new speculation, which has, in its turn, shared the fate of its predecessors; so that we might be tempted to consider the whole as a mass of ideas incapable of any systematic or logical sequence, from which it was impossible to deduce any generalized principles. But we think the researches of Neumann and Bizzozero, Eales, Hand, and ourselves establish the fact that the marrow of bones contains colorless cell-elements like white blood-corpuscles, also "transition-cells," intermediate between the white and red corpuscles, being colored and nucleated, and, lastly, true red corpuscles; that it resembles and seems to be identical with the function and structure of the lymphatics and spleen; that, like the lymphatics and spleen, it has the power to produce white blood-corpuscles, but, unlike the lymphatics, yet like the spleen, it has also the function to transform the white into the red corpuscle of the blood; so that it cannot be doubted but that it belongs to the class of hematopoietic or blood-forming organs of the body.

The process of transformation of the "lymphoid-cells" of the medulla, or of the white blood-corpuscles into red ones, appears to us, judging from the intermediate forms seen in the spleen and in the red marrow of bones to be as follows: the granulations in the "medullary lymphoid-cells" (analogous to white blood-corpuscles), diminish from the periphery, and seem to collect more or less about the central nucleus, and thus produce the cell with a large "granulated nucleus;" at the same time the rest of the cell becomes tinged reddish, and we have formed the "transitional" nucleated red blood-corpuscle. Now, as to the manner in which this latter becomes a non-nucleated one opinions still differ, and various explanations are advanced by the different observers. Bizzozero and Hand hold that it is the freed nucleus of the former; that the granulations of the nucleated red "transitional" cell disappear, and the nucleus is liberated to increase in size and form the red corpuscle.

With this opinion we do not agree; rather do we believe the red "transitional" form to be changed in its entirety into the red; that the "lymphoid cell" or white corpuscle gives origin to the red by a transformation of its entire structure. They do not differ from us as to the fact that the red cells are transformed from the white in the bone marrow, but only as to its method. Our reasons for believing that the change is entire rather than partial in structure are: 1st, no one has ever seen the rupture of the enclosing cell-wall of the "transition" form that must occur if the latter be true, and in the event of it not occurring, the endogenous method is fallacious; 2d, in her modes of development, nature always adheres to fixed laws alike for all homologous and analogous conditions. Her principle in the evolution of a specialized "expression" out of a generalized one is not that when the former appears there is a consentaneous disappearance of the latter, but that it remains and is only modified by its more highly developed constituent. Thus, in the plant a pistil or stamen is but a specialized petal, and the petal but a modified sepal, and the latter simply a more highly developed leaf, the leaf expression or power being in them all, as is well seen in cases of reversion, not discarded when specialization occurs. So also in the ovule, with its vitelline membrane and vitellus, its germinal area and germinal spot; specialization occurs as demonstrated by the disappearance of the nucleus, and the formation by segmentation of the mulberry mass; yet here the vitelline membrane is visible and the original appearance of the generalized body remains. Likewise, in the transformation of the red nucleated cell into the red non-nucleated one, there is no necessity to consider a rupture of the wall and the escape of a nucleus; rather let us believe that the nucleus disappears by specialization, and imparts its own inherent vitality to the new red blood-corpuscle, by virtue of which it is distinguished in its functions from the white corpuscle and its transitional forms. Were there no confirmatory proofs, we might not be so confident as to the agency of the bone-marrow as a blood-forming organ in the economy, since other interpretations might be made of the cells in question. But when we direct our attention to the changes induced in the marrow by pathological influences, then, indeed, do our opinions become more convincing. Thus, in leucocythæmia, the honor of whose discovery is divided between Bennett and Virchow,[119] is its value clearly defined. Suffice it to say that in this disease we have anæmia, lymphatic, splenic, and medullary enlargement (hyperplasia), and an enormous increase in the white corpuscles of the blood. Now, what is the anæmia, the great abundance of white cells, due to? The spleen and lymphatics being enlarged, naturally we have an explanation. In health, these organs producing white and red corpuscles through disease, have taken on an increased activity, and augmented the number of cells. But Neumann, with a mind full with the importance of his discovery, intuitively saw that if it had any value now was the time to prove it. Hence, observations in the post-mortem room directed to bone-marrow reaped a harvest. Here was noticed, in the medulla of bones of leucocythemia, an enormous increase in the medullary tissue; here was seen vast quantities of lymphoid cells, of developmental forms of red corpuscle, and here naturally arose a factor in the pathology of this interesting disease. If, then, we have an exaltation of the normal functions of the lymphatics and spleen in leucocythemia, and if, as proven by observations of Neumann, Huber, Waldeyer, Wood, Ponfick, and Pepper, no cases of it have as yet been described in which, on examination, the marrow has been found normal, then there can be no objection to the view that the disease is constantly associated with a pathological alteration of the marrow, an alteration which is essentially a sort of compensatory activity of its physiological hematopoietic function, a hyperplasia, a simple increase in its normal powers and functions.[120]

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SIMPLE DILATATION OF THE STOMACH.

By HORATIO R. BIGELOW, M.D.,

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Six months ago I was called to see a colored woman, Mrs. H——, who presented the following symptoms: The patient is fifty years of age, having passed the climacteric period. The face is pinched, wrinkled, and parchment-like, and bears the anxious expression incident to a chronic disease. She has no well-defined pain, but a gnawing, indescribable uneasiness in the stomach. There is increasing and general emaciation. The appetite is excessive, but she has a dread of satisfying it, as every meal is followed by eructations and meteorism, which are succeeded by vomiting. There is marked constipation, with alkaline urine, and the vomited matter contains sarcinæ. She has pains and muscular cramps in different regions of the body. The integument covering the abdomen is wrinkled and thrown into folds, so that the peristalsis can be made out in the sunken fossæ by palpation. The colon is depressed into the hypogastrium. When the patient is turned suddenly on her side, or when the abdomen is shaken, the *splashing* is very audible. The sound passed beyond the teeth, can be felt on a level with the umbilicus. The diagnosis was arrived at with no little difficulty. The patient had suffered in previous years with febrile disorders, but the abdominal symptoms became appreciable about three months only before she sent for me. Constriction of the pylorus, cancer, and ulceration, as well as peritonitis with inflammatory adhesions—the frequent causes of dilated stomach—were excluded, as presenting no characteristic phenomena. From her description I was led to infer that the patient had suffered primarily with catarrh of the stomach, and that this condition had set up a chronic *hypertrophy* of the muscular coat of that viscus. There was no reason to suspect pyloric constriction; the history of the case seemed to point to an opposite condition of enlargement. The catarrh had been unattended with excessive vomiting, and she had never seen any blood in the matter so rejected. There was no well-defined, localized pain. If this *was* a case of simple, uncomplicated dilatation, how had it been caused? Here we have a nice problem, worthy of consideration. The literature upon this subject shows that cases of uncomplicated dilation are exceedingly rare—so rare, indeed, that the possibility of its existence is denied by a few of those who have written upon the matter. So far as my memory serves me, I do not now remember that any instances of dilation in which some well-defined aggressive factor was not also present are alluded to by Penzoldt, Leube, or Kussmaul, although Dr. T. Clifford Allbutt, in the *British Medical Journal* of February 28, 1880, gives it as his opinion that it may not only be possible, but is not as uncommon as the profession generally suppose. He writes as follows: "The chief cause of a dilated stomach is, no doubt, obstruction forward—a thickening of the pylorus by cancer, cicatrix, or otherwise; and, as in the cases of the heart and bladder, the relation of hypertrophy to distention depends on the health of the individual and on the gradual advance of the obstruction. In simple dilatation of the stomach the cause is not found in pyloric obstruction, the pylorus being often itself dilated. The causes lie in the stomach itself. In those cases in which the muscular coat is atrophied, the sac gives way perhaps from its own inability to resist ordinary strain. Such cases are certainly a small minority of those recorded in the post-mortem room; but I believe the condition to be a common one in patients debilitated by prolonged disease, and especially by febrile disease." "Leube, in his section on this malady, in Ziemssen's 'Handbuch,' vol. vii., part 2, 1876, states that the malady was recognized, among others, by Spigelius in 1623, by Van Swieten in 1754, by Sauvages in 1768, by Morgan in 1774, and in our own time by Oppolzer and Traube, by Kussmaul and Penzoldt." Finally, Dr. Allbutt writes: "I have had but two opportunities of seeing on the post-mortem tables specimens of dilated stomach, apart, that is, from causation by mechanical obstruction. In both cases the stomach was enormously enlarged, and, indeed, on section of the abdominal wall, was seen to occupy the whole of the anterior portion of the abdominal cavity. I have not measured the cubic contents of such a stomach. The pylorus and duodenum in these two cases were also dilated. Neighboring organs were thrust into the rear, and the bowels were nearly empty. The coats of the stomach, when cut into, were seen to be thickened chiefly, it would seem, by development of the muscular coat. The mucous membrane was smooth and thin, but I have no notes of its structure.

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[119] Bennett: Leucocyth. Edinburgh, 1852; Edin. Med. and Surg. Journal, Oct., 1845; Schmidt's Jahrbücher, 1848; Lond. Med. Times and Gazette, 1861, p. 350.

[120] Bibliography of Myelogenic Leukæmia: Neumann: Berl. klin. Wochenschrift, Nos. 6–10, 1878; Deutsche Zeit. für prakt. Med., 13th July, 1878; Cincinnati Lancet, Aug. 31, 1878; Comptes rendus, 1869, p. 1112; Biennial Retrospect. 1868; Centralblatt. 1868, p. 689; Archiv der Heilkunde, 1869, x., p. 68; Bizzozero: Gaz. Med. Ital. Lomb., 1869, p. 2; Mosler: Virchow Archiv. 1873, p. 532; Phila. Med. Times, 1872, Nov. 15th; Hüber: Deutsches Archiv für klin. Med., 12. 1873, p. 389; Wood: Phila. Med. Times, 1874, p. 215; Schmuzzer: Archiv der Heilk., 1876, 17, p. 273; Tyson: Path. Soc. Phila., 1876, April 27; Mosler: Berlin. klin. Woch., Dec., 1876; Kelsch: Brown-Sequard's Archiv. ii. s., tome ii., p. 492; London Record. 1877, p. 157; Osler: London Lancet, 1878, p. 162; Janeway: New York Med. Record, 1876, p. 275; Wilks: London Record, 1861, p. 9; Da Costa: Amer. Journ. Med. Sci., 1875, p. 121; Biesadecki: London Times, 1872, p. 552; Chvostek: London Record, 1877, p. 274; Jaccoud: Leçons de clin. méd., 1873; London Times, 1877, p. 679.

The enlargement of the cavity was uniform in both cases, the larger curvature reaching into the hypogastrium. Indeed, to my eye these stomachs differed but little, if at all, from those in which dilatation had been caused by pyloric obstruction. The more careful necropsies of other writers speak of a general thinning of all the coats of the organ (Penzoldt) in a minority of cases, which are to be contrasted with those other published cases in which the walls of the stomach have seemed, by great hypertrophy, to have resisted dilatation, in which, indeed, an enormous hypertrophy of the muscular coat has actually diminished the cavity of the organ. Commonly it is found that although the stomach be greatly enlarged, yet the muscular coat is not atrophied, but decidedly hypertrophied; and, moreover, that the intimate structure of the muscular coat is not degraded. . . . . The only other detail now to be noticed in these necropsies is the position of the colon, which, in well-marked cases, occupies the lower hypogastrium, or may be overlaid by the stomach." The conclusion that I reached, after a study of the bibliography of the subject, together with a knowledge of the peculiar habits of the colored race, was that a condition of catarrh had been inaugurated through the constant ingestion of the most indigestible food, such as is the daily diet of negroes; that, through a lack of peptic power, the food was unassimilated. Gradually the coats of the stomach began to distend, so that its cavity might accommodate the increasing amount of food taken in, and that this condition obtained through enormous hypertrophy of the muscular coat. Upon this assumption, I first placed my patient upon daily doses of carbolic acid, followed by nitrate of silver and bismuth, feeding her by the rectum; but, as no benefit ensued, I resorted to the plan suggested by Prof. Kussmaul (Archiv. für klinische Medicin, 1869) of washing out the stomach with tepid water. It was a nasty process for practitioner and patient; the more so as I was obliged to use a stomach-pump, having no syphon, as recommended by Dr. Allbutt. The relief was immediate and permanent, and its efficiency was enhanced by the use of lactopeptine. The success which attends this method of procedure in simple dilatation would probably be equally great in dilatations depending upon any mechanical obstruction. The difficulty in diagnosis is not one of fact, but one of kind. The increasing bulk of the stomach may be made out with comparative ease, but the causation of the dilation is a question attended with much embarrassment. Generally, however, it may be said that in pyloric constriction from any cause whatsoever, we will have certain definite signs to guide us, which are absent in cases of simple dilatation. In the early stages of the malady much difficulty will be experienced in formulating a diagnosis.

A CASE OF

POISONING WITH HOMŒOPATHIC GRANULES OF "NUX."

By GASPAR GRISWOLD, M.D.,

NEW YORK.

On the fourteenth of August I was suddenly called to attend a lady who, I was told, had just had a stroke of paralysis. I found a young woman lying upon a bed, where she had been laid fainting a few minutes before. She had regained consciousness as I entered the room, and was much alarmed, complaining that she had suddenly lost all power over her hands and feet, and was unable to move them. Her fingers were extended, and she could not flex them; close inspection detected almost continuous twitchings of the small muscles of the hand. The condition was evidently one of tonic spasm, and not of paralysis. The face was pale, and the pupils were equal and widely dilated; the patient complained that she could not see distinctly, and that everything looked far away and blurred. The respirations, although disturbed in rhythm by nervousness and excitement, were, nevertheless, evidently efficient; a moment's auscultation showed the heart beating clearly and forcibly about 100 times per minute. The patient's mind was even abnormally sensitive, and she, herself, keenly apprehensive; despite her alarm, natural under the circumstances, there was a certain dignity and apparent effort to keep calm—an absence of the dramatic element in her manner, which silenced any suspicion of hysteria which might have been suggested by symptoms somewhat difficult to account for in any other way under the circumstances. In addition to this, the dilatation of the pupils was so conspicuous as to call for some other explanation. The mental clearness, associated with marked disturbance of the functions of the spinal cord, at once suggested strychnia, and I asked if she had not taken something—a medicine for her eyes, the last teaspoonful of a tonic mixture, etc. The members of the family denied that she had taken any medicine for a long while, and, being wedded to the opinion that the trouble was paralysis (of which they said many of their relatives had died), almost resented my persisting in asking questions. Suddenly the patient herself remembered that she had taken some homœopathic granules which she had long been in the habit of prescribing for herself when threatened with a sick headache. The dose had originally been five granules, taken two or three times; but that morning, feeling very badly, and fearing that the medicine might have lost its strength by having been kept for a year or so, she increased the dose to fourteen granules, and took it five times—*seventy granules in all, in the course of an hour and a half.* This occurred about an hour before the alarming symptoms presented themselves; she had for the time forgotten that she had taken the medicine, not dreaming that it was the cause of her sickness, and, indeed, considering that "homœopathic medicine was in any case harmless, since it affected merely the disease, and not the patient." The vial of granules was given me, and on the cork I read "Nux." During the few minutes required for diagnosis, the symptoms became more marked; a slight convulsion occurrēd, with suspension of respiration and a suggestion of opisthotonos. The face became deathly pale, the pupils even more widely dilated, and the patient fainted—apparently from cerebral anæmia. The inhalation of a few drops of nitrite of amyl (a bottle of which I was fortunate enough to have with me) rapidly restored her. Some chloroform was obtained just in time to be administered during a second convulsion, which was a little more marked than the first had been; two drachms of bromide of potassium were given as soon as the patient was able to swallow. The room was darkened and kept quiet, and slight inhalations of chloroform were continued for about twenty minutes, until the bromide of potassium could be absorbed and produce its effects. No further convulsions occurred; in an hour the danger had passed, and very soon afterward the symptoms had all disappeared. I have been unable to discover the strength of the granules; they were obtained while the patient was travelling in the west, and the circumstances attending their purchase have been forgotten. One of them, which I allowed to dissolve in my mouth, had a distinctly bitter taste; and the symptoms above recorded undoubtedly attest the presence of a larger proportion of the original drug than is sustained by any tenet which survives the visionary Hahnemann.

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CHIAN TURPENTINE AND UTERINE CANCER.—The first case in this country, which we have seen reported, of the use of Chian turpentine for uterine cancer, is related by Dr. J. R. Wheat, in the *Va. Medical Monthly*. The patient, aged 39, had had symptoms of uterine cancer for about a year when she came under Dr. Wheat's care. Three-grain pills of Chian turpentine were given every four hours. No other measure was employed. At the end of a week she felt much better. Improvement was then more slow, but is still continued up to the time of report.

TREATMENT OF FETID PERSPIRATION OF THE FEET.

By F. C. AINSWORTH,

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THIS form of osmidrosis, which is almost always, if not invariably in its severe forms, associated with, or an accompaniment of, local hyperidrosis, is as rebellious to the treatment prescribed by text-books and standard authorities as it is mortifying and annoying to the unfortunate sufferer and disgusting to his associates. Those cases in which the offensive odor is unaccompanied by excessive perspiration of the parts very rarely come under the notice of a physician, because they are, I believe, as a rule, the result of a want of cleanliness, and the application of a little much-needed soap and water, or at most, some of the milder measures in common use, suffice to remove the trouble.

But those aggravated cases, in which the feet are constantly bathed in moisture to such an extent that, after being worn but a few hours, the stockings are saturated and dripping when wrung, the skin white, macerated, blistered, and cracked, rendering locomotion painful in the extreme, while the disgusting odor is constantly perceptible in spite of almost hourly bathings and changes of the stockings, are but little benefited by the measures ordinarily resorted to. Lotions—aromatic, alcoholic, and astringent—are resorted to, together with all sorts of absorbent powders, with but little, if any, benefit.

Hebra's method of applying the diachylon plaster, while much more effective than the above, is disagreeable to the patient, and, to be properly carried out, requires the personal attention of the surgeon.

Several years ago I began using salicylic acid in this complaint, combined with some inert absorbent powder, but soon found that while the acid quite promptly removed the fetid smell, the excess of moisture was but little, if at all, diminished, and the case was as bad as ever soon after the discontinuance of the remedy. After a number of trials I adopted the following combination, which I have since been using with the greatest satisfaction both to myself and the patient:

℞. Pulv. alum. exsiccati........ ℥ iij.
Acid. salicylici............. ʒ jss.–iij.
M.

The patient is directed to bathe the feet every morning with warm soap and water, then to dry them gently with a towel, and, while they are yet moist enough to cause the powder to partially adhere, to apply freely the above mixture to the whole foot, taking care to leave a good quantity between the toes and in the sulcus underneath them. A quantity of the powder is dusted into the stockings, as well as into the shoes, before they are put on. At the outset it may be necessary to make this application twice, or, in rare cases, three times daily, but in a few days one application made in the morning will be sufficient. When the powder is to be used more than once daily, it is not necessary that the feet should be washed for the second or third occasion, because they are then sufficiently moist to cause the mixture to adhere, and, moreover, the same stockings which are already full of the powder should be reapplied.

Clean stockings should be used each morning, and a different pair of shoes, preferably low ones, should be worn each day.

After a few days of this treatment the skin of the feet begins to exfoliate between the toes. If the applications are continued, as they should be, the exfoliation process extends to the tough, thick skin on the sole, until finally a new and healthy layer has entirely replaced the old; then the treatment can be discontinued.

In several cases which I have treated, the trouble has partially returned after about a year, as it does after Hebra's method has been used; but it disappears after a few days' use of the alum and salicylic acid mixture.

It is desirable that the alum should be very thoroughly burned and reduced to an impalpable powder.

The patient should be cautioned to keep his head turned as much as possible during the application of the powder, as, when inhaled, the salicylic acid produces a fit of sneezing and coughing which may last for some time.

Although I have never had occasion to prescribe for other local hyperidroses, as of the axillæ or genitals, I see no reason why the above plan of treatment would not be equally beneficial in them. Of course the strength of the powder might need to be reduced so as to render its application painless, when used about the genitals.

WHIPPLE BARRACKS, A. T., 1880.

Progress of Medical Science.

NARCOLEPSY.—This name has been proposed by Dr. Gélineau to designate a rare, or, at least, hitherto imperfectly known malady, characterized by irresistible desire to sleep. (The word is derived from the Greek narkosis: somnolence, and lambanein: to seize, take.) The word also recalls the twofold analogy to somnolence and catalepsy. It is said to come on suddenly, at irregular intervals, and to last only a short time.

Gélineau succeeded in finding the record of one other case of this peculiar affection, his own observation thus being the second. The first case (*Journal de méd. mentale*, Nos. 8 and 9, 1862) was that of a large, powerful man, forty-seven years old, married, whose habits were strictly sober, and who had had no previous malady. This man was compelled to give up his employment, owing to an incessant and imperative desire to sleep. He was liable to be seized with this propensity at any time, whether walking, seated, or lying down. When he awoke he shortly fell asleep again. His face seemed pale and puffy, his attitude was one of dull indifference, his intelligence was "lazy," but his general health and embonpoint had not suffered during the four years of his sickness. Divers methods of treatment had failed to cure him.

The second case, observed by the author himself, was that of a dealer in casks, thirty-eight years of age, and of a "nervoso-sanguin" temperament. Three years ago he received a violent blow with the fist, and during the ensuing quarrel was arrested and confined in prison. This had caused him a severe chagrin. A little later, a falling log of wood struck his head, but this turned out to be but a slight accident. It was about a year after this that he first noticed a weakness in his legs. Some time afterward, when playing cards, and holding a good hand, he was unable to move his arms, his head hung down, and he fell asleep, awaking about a minute later. Soon the slightest emotion would suffice to bring on sleep, and this imperative propensity caused him considerable annoyance "His meals are disturbed again and again by this desire for repose; his eyelids droop; the hands let fall a fork, knife, or glass; the sentence which he had begun with a loud voice is completed with difficulty, and in low, stammering tones; his head sinks, he sleeps." Willed efforts were powerless to control this overpowering desire for sleep. While walking in the streets he was liable to be seized with a sleeping fit. Any profound emotion invariably produced a rapid attack. Bad weather, especially an approaching storm, increased the number of attacks, which might rise to two hundred a day. Violent shaking or pinching would, however, prevent the seizure. During sleep his pulse, ordinarily 66 or 68, falls to 58 or 60 beats per minute. The pupils, quite contracted when he is awake, are less so when he has a seizure. These last from one to five minutes.

His appearance is not one of disease; he eats well, sleeps well at night, and his bowels are regular. Urine or fæces never escape during these periods of morbid sleep. His memory has not suffered; he still attends his business affairs, but he never went out unaccompanied. Dr. Gélineau is of opinion that this malady is not epilepsy, but a hitherto undescribed neurosis, which may be called narcolepsy.—*Gaz. des hôp.*, July 8, 1880.

CASE OF PROLONGED ECLAMPSIA AND COMA IN A CHILD.—Dr. A. Kien, of Strasbourg, reported the following case to the Strasburg Medical Society: On the 24th of April he was called in great haste, to see a child that had quite suddenly fallen sick in the afternoon. When he saw the child, a little girl four years old, he found her completely comatose. He learned from its mother that the child during that day's afternoon walk with her had suddenly been bent over to one side, had then grown very pale, and had finally been seized with general convulsions. Several minutes later the paroxysm had ceased and had been followed by a condition of profound coma, from which the child had not yet been roused, despite the various efforts in that direction. Vomiting had also occurred, and the convulsions had again come on, and had been repeated about every half-hour. Dr. Kien found the girl stretched out on a bed in profound coma. The respiration was noisy and accelerated; the pulse was feeble and beat at the rate of 160 per minute; the temperature appeared normal. All the muscles were relaxed; peripheral irritation provoked no sign of sensibility or reflex action. The eyes were widely open, motionless, and with the pupils much dilated. Urine and fluid fæcal matter (the result of an injection) had been unconsciously voided. The doctor soon witnessed an attack, which he describes as possessing all the characteristic qualities of eclampsia—initial pallor, with stretching of the whole body, momentary cessation of respiration, the general clonic convulsions with foaming at the mouth, followed after about three minutes by a profound sighing respiration, and, finally, coma. The previous history gave no clue to the nature of this singular affection. The child had always been well. Accordingly, the treatment adopted was symptomatic. On the following day the child's condition remained unchanged, barring the supervention of a distinctly marked febrile movement. One day later the convulsions ceased, but the coma continued. The cessation of the convulsions had taken place immediately after a warm bath followed by a cold douche. The coma resisted all treatment, and finally, on the eighth day, warm bathing followed by the cold douche was again resorted to. After the first bath the girl regained consciousness, and called to her parents. From this time on the child rapidly improved, and is now completely cured. An occasional slight strabismus is the only residual symptom.

In discussing the probable nature of this affection the writer finally arrives at the conclusion that it must have been a case of insolation. An active cerebral congestion with subsequent œdema, or serous effusion into the meninges and cavities of the brain, he thinks, was at the bottom of the disease. For the curative action of the cold douche he is unable to offer any satisfactory explanation.—*Gazette obstétricale*, August 5, 1880.

Bromide of Ethyl in Hysteria and Epilepsy.—At a recent meeting of the Paris Biological Society, Bourneville and D'Olier reported the results of investigations carried on for the past two months, concerning the physiological action of bromide of ethyl in hysteria and epilepsy. Their observations are comprised under three headings: 1. Action on the attacks of hysteria. The medicament almost invariably brought about a cessation of convulsive phenomena, and in two patients it several times produced the rapid transition of the stage of "clownism" into the condition of delirium. 2. Action on epileptic seizures. The inhalation of the drug commenced with the inception of the period of muscular rigidity, in three cases, effected perfect relaxation after several seconds of inhalation. In other cases the severity and duration of the convulsions appeared to be diminished. In some cases the ethyl bromide seemed to produce no appreciable effect on the patients. 3. Action on epilepsy. Ten patients, of which number five were adults and five children, were for two months subjected to a daily course of inhalation continued to anæsthesia, and in some cases prolonged for twenty minutes. A considerable diminution of the number of seizures was noted in five cases. Concerning the other five no mention is made.

In five cases the writers also observed a lowering of the temperature of less than half a degree during the progress of inhalation. Immediately afterward the temperature again rose, and in some cases even exceeded the normal limits. In their five hundred observations, the authors also found, as a rule, a slight increase in the pulse-rate during inhalation. In six cases the pulse became somewhat retarded. The respiration was also somewhat increased in frequency. The lachrymal secretion became rather abundant in almost every case. The renal secretion did not appear to be influenced. Two of the ten patients observed for the last two weeks showed muscular rigidity accompanied by tremors, especially marked in the arms, at the commencement of the inhalations. The general health in no instance suffered from these experiments.—*Le Progrès médical*, August 7, 1880.

Dacryocysto-Blennorrhœa—Treatment by Scarifications of the entire Lachrymal Duct.—Prof. Schmidt-Rimpler, of Marburg, has devised a little knife intended for scarifications of the lachrymal ducts in those cases of persistent catarrh which are independent of stricture in the lachrymal passages. Still, the author adds, stricture would not be a contraindication to the use of the scarifier. In fact, he has cured or improved such cases—which refused to yield to the prolonged employment of Bowman's sounds—by means of repeated scarifications of the mucous membrane. In chronic catarrhs of the lachrymal passages the mucous membrane is found to be thickened, and it is this thickening which causes the unpleasant symptoms complained of by the patients. Now, Schmidt-Rimpler believes that scarifications relieve this thickening, partly by an immediate diminution of the engorgement of the mucous membrane, partly by subsequent cicatricial contraction. Accordingly, he advises deep scarifications of the entire naso-lachrymal duct, not incisions, confined to the lachrymal sac, as he and others had formerly recommended. Of course, when the duct does not allow the passage of his new knife, the sac alone must be thus treated; but, in most cases, the small knife can be made to enter without much difficulty. He describes two sizes of these knives. One is a probe-tipped scarifier, 2 mm. broad, with a convex blade, and 1½ ctm. long, secured to a handle by an intermediate probe, corresponding in thickness to a large Bowman's sound, and 2½ ctm. in length. The other knife is essentially the same, only much smaller. The method of employment is as follows: the direction of the naso-lachrymal duct having been ascertained, the scarifier is passed in through the superior, previously slit lachrymal canal. The instrument being held in a horizontal position, as soon as the tip reaches the nasal wall of the lachrymal sac the handle is elevated and the cutting surface directed anteriorly; it is pushed down through the entire duct. Then the knife is turned, and as the instrument is withdrawn, a second incision is made. When the lachrymal sac is reached its walls are deeply scarified. In this way all existing valves, thickenings, and diverticula are cut, as is shown by the reappearance of matter, after previous pressure had failed to yield any. Hemorrhage, says the author, is never profuse, and may be stopped by compression of the lachrymal sac. The pain of the operation is apparently no greater than that incident to the forced passage of a sound. Cold applications, followed, when necessary, by astringent washes, are the only subsequent treatment. Should previous symptoms return, the operation may be repeated and a cure finally effected.—*Berl. klin. Woch.*, July 26, 1889.

Ladies' Sanitary Towels.—At a meeting of the Obstetrical Society of London, Wednesday, July 7, 1880, Dr. Gallabin presented for examination some new sanitary towels for use during the catamenia and after confinement. They contained a pad of absorbent cotton-wool, rendered antiseptic by boracic acid, as being less irritating than other antiseptics. The advantages were that they could be burned after use, and so were especially valuable for the lying-in room, and that they were very soft and absorbent. The retail price was three shillings a dozen, and it was believed that the cost would not much exceed that of the washing of ordinary diapers, since they could be worn longer.—*British Medical Journal*, August 7, 1880.

Beri-beri in San Francisco.—Surgeon E. Hebersmith reports to the Marine Hospital Bureau that eighteen men from the Brazilian man-of-war Vitol de Oliveira were admitted into the U. S. Marine Hospital at San Francisco on the 21st of August, sixteen of whom were suffering from the rare disease known as "beri-beri," or the "bad sickness of Ceylon." Beri-beri is an Indian disease, a cachexia in which there is great muscular weakness, tremors, painful numbness, etc. It is generally curable.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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THE MEDICAL REGISTRATION LAW.

THE law at present in force, regulating the licensing of practising physicians and surgeons in this city, is as comprehensive in its scope and as perfect in its detail as could be expected under the circumstances. Heretofore the mistake in all similar laws has been the aiming after impossibilities, and the consequence naturally has been that their provisions have been not only ignored, but the whole subject of medical legislation has been very justly brought into ridicule. The point of excellence in the law of this year is centred in the second section, which provides for a registration of all such as are or shall be legally qualified to practise medicine or surgery. Although this may have put many to an inconvenience, the latter is more than balanced by the good that must eventually accrue to each individual member of the profession. With such an end in view, the fact of compulsory registration is one with which the profession at large must be in accord. In fact, the willingness with which the great majority of medical men came forward to testify in a practical manner to the utility of the law, by complying with all its requirements, is a gratifying evidence of the truth of this assumption. From all parts of the State we hear that the legally qualified practitioners of medicine have been registering, and that the various county clerks have full lists of all medical men within their jurisdiction.

It is perhaps proper, in this connection, to call the attention of those physicians in this State, who may have neglected to register, to the fact that from the first of October they have rendered themselves liable to a fine of fifty dollars for the first offence of practising as an unregistered practitioner, and not less than one hundred dollars for each succeeding one. As one-half of such fines goes to the informer, it is easy to see that there may be peculiar inducements to some parties for making the necessary complaints. The provision of the law respecting the fines are so explicit that there does not seem to be a possibility of escaping a penalty when once its liability is proven.

There is no easier way of making a distinction between the legally qualified medical practitioner and the quack than the compulsory registration of qualifications. The qualifications fixed by law are so simple that none can misunderstand them, neither can any one complain that the standard of requirements is not within the reach of any ordinarily educated practitioner. It is this and other features of the new law which make it so consistent and so practicable. As there is now no legal excuse why even every professionally qualified medical man in this State should not be registered, there is still less to be said of such as are practising without license. To such medical men as believe that this law will be equally ineffective with previous ones, in suppressing irregular practices, we commend a careful reading of its provisions. It must be conceded that the framers of the bill understood the situation very thoroughly, and that every reasonable means have been used to prevent the illegal practice of medicine. The homœopaths and eclectics have equal rights with the regulars under the law, which is perfectly proper, and which will tend to divest the law of all supposed partisanship, and free it from all the elements of class legislation. Its whole aim is so clearly in the best interests of the people at large, that it can hardly fail to become as popular with outsiders as it already appears to be with the profession.

It remains to be seen what will be the effect of this law upon the irregular practitioners, men and women, who prescribe without any legal qualifications; clairvoyants, mesmerists, counter-prescribing druggists, and others of the same ilk. To continue their practices would be in open violation of the law, from the penalties of which there does not appear to be a reasonable escape. It is explicitly stated that no one shall practise medicine or surgery in this State, without either having received a diploma or endorsement from a legally qualified medical college of this State, or from a Board of Examiners of the State University, evidence of either of which must be given by affidavit at the time of registering. As the registration is compulsory, hardly anything more can be desired to make the law effective. There are some features of the law which will have a tendency to reach beyond the mere suppression of quackery in some of its more pronounced forms. While much authority is vested in the medical colleges for granting diplomas, the State in its turn has a right to demand that the requirements for graduation shall come up to a certain standard. Failing to do this, such colleges can be deprived of their charter. By such means can colleges be prevented from disposing of their diplomas for shorter periods of study than required by law, and the bogus diploma trade can be suppressed.

A NEW GERMAN TREATMENT FOR TYPHOID FEVER.

Every little while the medical profession is surprised with a new treatment for typhoid fever. But there does not seem to be any limit to the variety of ways in which our therapeutic forces can be marshalled against the disease. Dr. C. G. Rothe has recently presented a new method—the antiseptic—of treating typhoid fever.

The doctor had formerly treated his cases of this disease—with due respect to him—very badly indeed, from an American standpoint at least. He was accustomed to give hourly doses of infusion of digitalis, with aconite and tincture of iodine, until a distinct effect on the pulse was produced. Whether this effect was that of the digitalis, or of that of its antagonist, aconite, it is not stated. With these drugs he used frequent cold wrappings, quinine or salicylic acid in large doses; and if the temperature persisted above 104° he gave cold baths. Of six cases which he records, treated in this way, one died, and in the remainder convalescence was much protracted.

In nineteen subsequent cases Dr. Rothe adopted a new method, which he had hit upon accidentally. This consisted in giving a mixture of one or two parts of carbolic acid, and one of tincture of iodine, in 120 of water. A tablespoonful of the mixture was given every hour until a noticeable effect upon the pulse and temperature was produced. With this was combined for a time, at first, infusion or tincture of digitalis, and cold wrappings frequently renewed. All the cases recovered. Dr. Rothe states that they all came under his treatment while having high morning temperatures, and that in all alike, first the pulse and then the temperature sank within from two to seven days. The pulse frequently went below the normal, and did not rise to its former height except when the medicine was discontinued, or given less frequently, by way of experiment. The effect could not have been due to the digitalis, for this was only given for a short time at the beginning of treatment. Besides, the severe symptoms immediately reappeared if the iodine and carbolic acid were discontinued. The tongue, in the cases treated as above, never got brown and crusty; the gastric symptoms subsided very early, and a moderate appetite soon appeared.

The explanation given of the way in which the drugs produce these beneficial results is: 1st, that they act upon the vagus or the cardiac centres, thus modifying vascular activity; and 2d, that they come in contact with the diseased intestine; here they have an antiseptic effect upon its ulcers, and an antibiotic effect upon any infecting germs developing at those points.

The plan of treatment thus described seems to have had extremely good results. We give it for what it is worth, and would neither advise nor discountenance its further trial. Typhoid fever is not a disease to be trifled with. At the same time it seems to be the fact that in its treatment at present one drug is about as efficient as another in modifying the course of the disease; so that we should be glad to learn if there is something really useful. We hear strong claims for turpentine, for laudanum, quinine, acids, calomel, digitalis, chlorate of potash, and baths of all kinds; there is a list of over forty "efficient and useful" drugs for the disease. All this makes one suspicious; and the fact is—a fact now widely enough understood—that if the patient is properly supplied with food and stimulants, if the temperature is kept below an excessive height, and any special symptoms met as they arise, we have done about all that can be promised just now. If there are drugs which really mitigate the course of the disease, the profession, as a body, does not recognize the fact. We should be surprised to learn that further experience proves Dr. Rothe's plan to be as efficacious as he thinks it is.

THE PUBLIC HOSPITALS AND INSANE ASYLUMS OF THE STATE.

The eighth annual report of the State Charities Aid Association for 1879 has just appeared. The reports of this Association have always been documents of considerable interest. The present one is perhaps less so than most of the others; but as this is because it has fewer evils to discuss, the fact is a matter of congratulation rather than otherwise. During the eight years in which the State Charities Aid Association has been in existence, there have been very marked improvements in the condition of our penal and charitable institutions. Better buildings, better officers, better management, and a better hygienic condition have been secured nearly everywhere. What is more, the people have been brought to take a deeper interest in the condition of those whom they are supporting. In a great many departments things have reached as good a state as is possible under the present system of management, and this system alone is left to be reformed. The curse of most of our public institutions, it has been told us often, is that they are under the control of politicians. The executive officers depend for their position upon their party's supremacy. Their party, therefore, comes first. It is more a matter of chance than anything else if executive officers are good men. We fear that the evils of this state of affairs will have to be accepted with as much grace as possible. It must be a long time before the whole people of this state demand a proper system of civil service, and it will not be until then that such a system will be adopted. Meanwhile, we must accept the advice of Mr. Herbert Spencer, and "unite philanthropic energy with philosophic calm."

Regarding the hospitals and insane asylums of the state, which are the institutions of most interest to us, the report does not have much to say that is new. We are very placidly told, however, that even in the badly constructed hospitals the introduction of trained nurses and the use of antiseptics, "as taught by Prof. Lister," has greatly reduced the death-rate. In a number of the counties there is no proper provision for the treatment of the sick. Paupers, insane, the aged and the diseased, live together in the same buildings. The improvements that have taken place in Bellevue and Charity Hospitals are enumerated and commended. The building of the ventilating towers for Bellevue and of the pavilion for acute surgical cases is certainly of great advantage. It is gratifying to learn also that a physician who pays special attention to nervous diseases has been put in charge of the new pavilion for the insane. In the maternity pavilions on Blackwell's Island there were, in 1879, two hundred and fifty-nine cases of confinement, with eleven deaths of mothers. This is too large a per cent., but it is believed that all possible skill is exercised.

Regarding the care of the county insane in the counties, we hear much the same story as in previous years, although some improvements are going on or have been made. We note eleven counties in which the accommodations for the insane are stated to be either not good or miserably inadequate. The crowded condition of the state asylums allows counties which wish to be thrifty to keep their insane in the poor-houses. A decent silence is preserved regarding the city insane asylums on Ward's and Blackwell's Islands. The state insane asylums do not appear to have been visited. The general tenor of the report shows its appreciation of the difficulties and deficiencies in the care of the state's insane. It could not be expected, however, that a committee of the laity should grasp the full importance of the question; nor do the functions of the State Charities Aid Association call upon it to do so.

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LADY HARRIET SCOTT BENTICK has given $20,000 to the International Hospital at Naples, in order to enable the committee to buy or build premises of their own. It is among the conditions of this gift that an English-speaking physician and an English nurse be always kept at the hospital.

POETRY AND MATERNAL IMPRESSIONS.—A Maryland physician, according to the *Dublin Medical Journal*, has reported a case of maternal impression which leaves all ordinary cases far behind. A lady, during pregnancy, carried with her a pocket edition of Moore's poetical works, which she read almost constantly. Her child, at three years of age, exhibited a most wonderful gift of putting sentences into rhyme—in fact, naturally expressed his little ideas and thoughts in flowing measure. Blame not the bard, says the *British Medical Journal*, but a case like this shows how important is a well assorted library to a gravid uterus.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, September 8, 1880.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

CHRONIC BRIGHT'S DISEASE, WITH ACUTE SYMPTOMS AND DEATH.

DR. A. C. POST presented two specimens of urine: one as drawn with the catheter, and the other as prepared by heat and nitric acid. The urine was taken from a patient with the following history: A lady, between forty and fifty years of age, whose health had been somewhat delicate for a number of years, notwithstanding she was a large, stout person, had during the last two or three years passed several quarts daily of light-colored urine, which had been tested and found to be albuminous. As far as could be learned, there had not been positive uræmic symptoms. She spent the summer in the White Mountains, and returned to the city on Monday, the 30th of August, in a fair state of health. On the Thursday next following she had what she regarded as an attack of indigestion, which was attributed to partaking too freely of corn and beans. Dr. Post was called early Friday morning, and found her suffering from intense abdominal pain, which the patient could partially relieve by making firm abdominal pressure She also had vomiting and purging. From the history, Dr. Post regarded it as a case of severe indigestion, and administered a charcoal mixture; but i afforded no relief. He then ordered two teaspoonfuls of the U. S. solution of morphia, to be followed by teaspoonful doses every hour until the pain was relieved. After a few hours, the morphine thus administered having failed to give any relief the dose was doubled, and within less than twenty four hours very nearly two ounces of the U. S. solution were taken before the pain was entirely relieved The nausea continued for some hours after the subsidence of the abdominal pain. Although she had not slept much, having taken such a quantity o morphine and recovered from the pain, she seemed to be drowsy, and her pupils remained contracted On Sunday the drowsiness was more marked, and was attended with a good deal of twitching of the muscles of the limbs. On closer inquiry, it was then found that she had not passed any urine for nearly twenty-four hours. A catheter was introduced, and from ten to twelve ounces of light-colored urine obtained, which was found to be albuminous. Dr Post was then convinced that the drowsiness and muscular twitchings were uræmic in character, and put the patient upon tablespoonful doses of the infusion of digitalis once in *eight* hours, and, as th symptoms became more grave, the interval betwee the doses was reduced to once in *three* hours.

On Monday she had become semi-comatose; th twitchings had increased: a catheter was introduced and only about two ounces of urine were obtained She was then dry-cupped thoroughly in the lumba region, but no more urine was secreted. The com became more complete, and she died on Tuesda morning at one o'clock.

The urine exhibited contained, as reported by Dr Stickler, one-third albumen, had a specific gravit of 1010, an acid reaction, large hyaline and sma granular casts, fat-globules, bladder-epithelium, and amorphous matter.

A post-mortem could not be obtained. One feature of the case, especially interesting, was the sudden suppression without the appearance of blood in the urine.

REMOVAL OF AXILLARY GLANDS—THROUGH DRAINAGE.

Dr. Post also presented a mass of axillary lymphatic glands, with a portion of skin covering them, removed from a lady on the 16th of August, a little less than a year after the removal, by another surgeon, of the mammary gland upon the corresponding side. For several months the patient had had a good deal of pain and some indurated swelling in the axilla, and it was evident that, if she was to be benefited by an operation, no time should be lost. The case was reported especially with reference to the manner of dressing and the healing of the wound. After removing the mass, which was very deeply situated, he resorted to Dr. Markoe's plan of through drainage, consisting in the introduction of a drainage-tube with perforations only within the wound, and injecting through it a solution of carbolic acid, 1 to 40, until the fluid comes out clear. All the stitches and the tube were removed at the end of the second day, and, with the exception of the orifices through which the tube passed, the wound was substantially healed. He thought the mode of dressing superior to Lister's, inasmuch as it is equally effective, and at the same time simpler and more comfortable for the patient.

COMPOUND FRACTURE OF THE SKULL.

Dr. Post also presented numerous small fragments of bone taken from the skull of a boy three years old, who was brought to the Presbyterian Hospital on the 2d of August, having fallen from a third-story window. There was a compound fracture with deep depression in the frontal and extending toward the temporal region, and the dura mater was exposed, though not wounded. He was not entirely unconscious, and could be aroused so that he would answer questions. At that time there was no febrile excitement. Besides the injury mentioned, there was a copious discharge of watery fluid, very slightly tinged with blood, from the ear on the side corresponding with the injury upon the forehead. Dr. Post enlarged the wound, and with a Rongier removed the overhanging edges of the bone, raised and removed all the depressed portions of bone, exposed the dura mater, which was sunken to some distance beneath the surface, and then applied a carbolic lotion. For the first two days there was but little fever, the boy could be aroused, and prospect of recovery seemed to be fair, notwithstanding the grave nature of the injury.

On the third day the temperature suddenly rose to 105° F. or more, coma became complete, and death occurred on the same day. Autopsy, made by Dr. W. H. Porter, revealed extensive fracture through the petrous portion of the temporal bone, as might have been expected, and the fracture also extended through the orbital plate of the frontal bone. There was also rupture of the upper lobe of the right lung.

Dr. Post remarked that the most interesting clinical feature of the case was the discharge of watery fluid from the ear, a symptom which was regarded by surgical pathologists as evidence of fracture through the petrous portion of the temporal bone, and communication with the cerebro-spinal fluid. He believed that cases of recovery after that occurrence were very rare, and that the symptom indicated more certainly a fatal termination than the discharge of blood from the ear.

In connection with the above case, he mentioned another in which the patient, a man, was thrown upon a platform of the elevated railroad, and, together with dislocation of one femur upon the dorsum of the ilium, etc., he was so injured that there was hemorrhage from one ear and a certain amount of coma, with violent excitement that demanded mechanical restraint. He was about thirty-five years old, his pulse was full and strong, his general health had been good previously, and Dr. Post practised venesection, removing twenty ounces of blood. The patient soon became quite calm, and since had done well.

HIP-JOINT DISEASE—EXCISION.

Dr. Post also presented portions of bone which he removed in St. Luke's Hospital, from the upper extremity of the femur of a girl nineteen years of age, who had suffered from hip-joint disease as long as she could remember. There was considerable shortening and deformity of the limb, and several sinuses communicated with diseased bone. The wound was treated upon Dr. Markoe's plan of through drainage, and there had been but little constitutional reaction since the operation. The acetabulum seemed not to be involved. The limb was kept extended by means of weight and pulley for about *two* weeks, and was then put up with a plaster-of-Paris dressing, so that the patient could go about on crutches. The patient's general condition had improved, the original sinus discharged but little, and, notwithstanding the formation of several abscesses since the operation that were opened and still continued to discharge, there was fair prospect that the patient would make a good recovery. The case was especially interesting because of its long duration.

Dr. Putnam-Jacobi asked Dr. Post three questions with reference to his first case: 1st, was not the attack of "cholera morbus" itself an expression of uræmia such as often occurs in advanced stages of renal cirrhosis, when urea begins to be eliminated by the gastro-intestinal mucous membrane; 2d, had not the fatal event been accelerated by the morphine, which, sparing the higher nervous centres, had nevertheless paralyzed the renal nerves, and thus induced a paralytic congestion of the kidney; 3d, might not derivation to the surface by means of the vapor-baths, or of jaborandi, have been of service in the case?

Dr. Post replied that the patient was in a profuse perspiration during her entire sickness, and he saw no special indication for using either jaborandi or a vapor-bath. He was doubtful whether the morphine had anything to do with the suppression of the urine. The necessity for its administration seemed to be absolute because of the severity of the pain, and it was given gradually and carried no further than was necessary to afford relief. He was not aware of the fact that the patient had had albuminous urine for some time when the morphine was administered. *Had* he been, he would have given a large dose of calomel, hoping thereby to have removed the abdominal irritation without incurring the risk of occasioning suppression of urine.

Dr. C. Heitzmann thought that it was evidently a rare case of fatty degeneration of the kidneys; for the small granular casts indicated chronic croupous nephritis which had resulted in fatty degeneration.

The fact that there were large hyaline casts indicated that a new inflammation had developed, involving the pyramidal portion of the kidney; whereas the small granular casts indicated that the narrow tubules were involved; hence a chronic process. Such cases, he thought, were not very common. As far as his observation had extended, having had little or no practical experience in that direction, internal treatment was of almost no value. He was also thoroughly convinced that the presence of hyaline casts in the urine always indicated inflammation and not congestion; that is, mere congestion cannot lead to the formation of casts.

With reference to Dr. Post's case, he was also surprised that blood had not appeared in the urine; for, in fatty degeneration bloody urine is more common than in any other form of kidney disease.

With reference to nitric acid as a test for albumen, it would, he believed, surely dissolve small quantities of albumen, and he therefore advised the use of acetic acid in connection with heat.

DR. PUTNAM-JACOBI remarked that, in itself, the hyaline cast was the immediate result of congestion, although only of the congestion which constitutes an element of acute or chronic inflammation. The fact that in this case the hyaline casts were unaccompanied by hemorrhage, seemed to forbid the supposition that they resulted from a very recent process. They rather belonged to the chronic disease, which there was every reason to suppose existed.

"In a persistent and severe albuminuria, hyaline cylinders (similar to those already described in acute nephritis) are found occupying the uriniferous tubes" (Corneil and Ranvier, p. 1040). Rindfleisch also describes these albuminous (not fibrinous) cylinders as an element of parenchymatous nephritis, probably dependent on extravasations of blood-serum.

THE PRESIDENT directed attention to a practical point in examining urine for albumen. He had frequently been able to detect albumen in urine that had been examined by students and reported as containing no albumen, by observing the precaution of holding the test-tube against a dark background, when the flakes of albumen could be seen rising and falling, that would not be recognized when the tube was held up in the usual manner. In all cases in which there was doubt as to whether or not the specimen contained albumen, it should be filtered until it was perfectly clear, and then acid used, preferably the acetic.

With reference to congestion of the kidney, the President called attention to the following case: A boy, sixteen years of age, came from Michigan to be treated for necrosis of the femur. One year subsequently, Dr. Satterthwaite was called upon to make a post-mortem, the lad having died of scarlet fever after a sickness lasting only forty-eight hours, and during the last twelve hours of his life he passed no urine whatever.

On removing the kidneys, they were found pale and bloodless, except in the pelves and calices, which seemed to be congested and presented an appearance which corresponded exactly with that illustrated by the colored plates of Lebert.

On making a microscopical examination of the organs, however, no congestion was found. The epithelia were fatty.

Some time afterward, while reading "Klebs' Pathological Anatomy," he found that that author mentioned cases in which the only portion of the kidney which was congested was the malpighian bodies. He then returned to the examination of the kidneys in question, and found that their malpighian bodies were markedly congested, and were the only portions of the kidneys that were thus involved. They therefore corresponded to what Klebs has denominated *glomerulo-nephritis.*

DR. PUTNAM-JACOBI said that the interpretation she had offered in Dr. Post's case was quite in accordance with such an interesting fact as that described by Dr. Satterthwaite. In both cases suppression of urine, not preceded by hemorrhage, was the prominent symptom; in both cases the renal nerves had been exposed to the influence of a poison capable of poisoning them—in one the scarlatina poison, in the other the morphine. Ludwig's experiments have shown that lowering the pressure in the branches of the renal artery sufficed to arrest the excretion of water through the malpighian tufts. Paralysis of nerves going to the blood-vessels would reduce the arterial pressure to a minimum, and thus cause fatal suppression of urine without previous hemorrhage, without fever or other sign of *acute* nephritis. This was exactly the clinical combination offered by Dr. Post's case.

CONTRIBUTIONS TO THE PATHOLOGY OF THE SKIN.

DR. C. HEITZMANN exhibited specimens of small-pox, in order to illustrate the microscopical changes in this disease.

In the *papular stage* of the inflammation the epithelia of the rete mucosum are coarsely granular, due to an increase of living matter within the protoplasmic bodies. The points of intersection of the living matter—the so-called granules—become enlarged, the nuclei shining and solid, and the "thorns" which traverse the cement-substance thickened. The underlying papillæ are slightly enlarged, partly due to the engorgement of the blood-vessels, partly to a transformation of the bundles of connective tissue into protoplasm. After liquefaction of the glue-yielding basis-substance, the reticulum of living matter, formerly hidden therein, becomes visible.

In the *vesicular stage* the exudation makes its appearance, and by the breaking apart of the reticulum of some epithelia a small cavity becomes visible, or several such cavities had formed, and thus the separating layers of the epithelia are compressed and produce septa between the cavities. The epithelia bounding the cavity look very coarsely granular, and having partly lost their enclosing cement-substance, are transformed into protoplasmic clusters, with many shining nuclei. In the exudation filling the vesicle there are suspended granules of coagulated albumen and a varying amount of coagulated fibrin. The papillæ have disappeared, the uppermost layers of the derma are replaced by indifferent, or medullary, or inflammatory elements, all in connection with each other through delicate threads of living matter.

In the *pustular stage* of small-pox, pus-corpuscles appear in the cavity within the rete mucosum, which mainly arise from the epithelia traversing and bounding the cavity. How many of the pus-corpuscles have appeared through an immigration from below we do not know. According to the amount of living matter present in the pus-corpuscles, the pus is thick and yellow, or serous and pale. The connective tissue, as a rule, does not advance beyond its reduction into a medullary tissue; in some cases, also, the medullary elements are torn asunder, and now represent pus-corpuscles, which commingle with the pus sprung from the epithelia, and share in the formation of the abscess.

Dr. C. Heitzmann also exhibited specimens of *angioma of the skin* (vascular or erectile tumor, formerly so-called teleangiektasia). He distinguishes three varieties: 1. *Angioma simplex*, a new formation of capillary blood-vessels, mainly in the upper layers of the derma, leading to the appearance of a uniform, flat, dark red spot, so-called nævus flammeus. 2. *Angioma lobulare*, in which the newly formed blood-vessels are coiled up in lobules, which latter are separated from each other by a fibrous connective tissue. 3. *Angioma cavernosum*, with large spaces, imitating the structure of the cavernous body of the body, filled with venous blood, and holding a variable amount of connective tissue. The most common vascular tumor of the skin is the *myxo-angioma*, with numerous large capillary blood-vessels held together by a myxomatous connective tissue. All dark red, mostly sessile, not fully compressible tumors of the skin, often only slightly protruding above the level of the skin, belong to this variety of mixed tumors.

Dr. C. Heitzmann lastly demonstrated specimens of *adenoma of the skin*, which almost exclusively is a new formation of the sebaceous glands. Such tumors are very prone to be transformed into *cysts*, with varying contents. A watery fluid is present in *serous cysts;* a viscid, honey-like fluid in the *meliceris:* a smeary, offensive, pasty liquid in the *sebaceous cyst;* an almost dry, slightly rancid, pearl-colored mass in the *dermoid cyst*. Careful examination of cysts, both of the skin and the ovary, results in the assertion that cysts never are primary formations, but always due to secondary changes of adenoma. The liquefaction or accumulation of epithelia is the exclusive source of formation of cysts, which therefore must run in the system of tumors as formations secondary to adenoma.

Dr. Post asked, are not cysts sometimes produced by obstruction of ducts of glands; for example, as in ranula?

Dr. Heitzmann replied that researches in Germany concerning ranula rejected the conclusion that simple obstruction ever produced a cyst. It was to be confessed, however, that pathologists were somewhat in the dark with reference to the etiology of ranula.

Dr. Post remarked that he had seen a ranula over which Wharton's duct could be traced distinctly. It was, however, an exceptional case.

The President referred to one form of angioma not mentioned by Dr. Heitzmann, namely, that existing in the connective-tissue planes, and called by one German writer *hyperplasticum*. He had seen one specimen removed from the orbit.

Dr. Heitzmann remarked that he had not seen that variety in the skin.

TUMOR OF THE BRAIN.

Dr. F. M. Hamlin, of Auburn, N. Y., on invitation, then presented a tumor of the brain, accompanied by the following history:

He was called in consultation, on May 10, 1880, with a number of the physicians of Auburn, to see Dr. D. H. A——. The history of the case as then given by the family was as follows: Age, 53; physician; habits strictly temperate and correct. For five or six weeks previously he had suffered from a severe headache, with the pain confined almost entirely to the occipital region, and it increased in severity until May 1st, when he put a blister on the back of his neck and was greatly, if not entirely relieved. On May 3d he received a telegram from New York to come and attend one of his old patients, and he went at once in response to the call. While in the city the pain returned in the occipital region and he acted somewhat strangely, but attended to his patient, and also sent for another patient to come from Auburn to the Women's Hospital and have an operation performed. Although he suffered intensely and appeared somewhat abstracted at times, he seemed to have performed his duties correctly. His patient at the hotel died, and he returned to Auburn with the remains on May 9th. As soon as he was met at the depot by his friends, they saw he acted strangely and seemed very ill, and they insisted upon his going to his home at once. He did so, and, finding a patient waiting in his office, prescribed for her and then went up to his family. After giving them a somewhat disconnected and jumbled account of his visit to New York, and how he had suffered from the pain in his head while there, and was then suffering from it, he went to bed and soon began to sleep.

Dr. J. D. Button was then sent for, who prescribed a mercurial cathartic, bromide of potassium, and rest. He slept nearly all day, and after the action of the cathartic seemed relieved. The next morning he had a serious "sinking spell," or period of depression. Stimulants were used, and he revived; but as his sleep had now become almost semi-comatose, a consultation was called. His condition at this time was as follows: when roused up, he would recognize his friends, shake hands, speak, and answer questions correctly, but would fall asleep the moment he was let alone, and sometimes before he would finish a sentence. The pain in the head was entirely gone. There was some thickness and indistinctness of speech, tongue coated, protruded promptly and straight out. When asleep, his lips drew in and puffed out with each respiration. Pupils not contracted, equal, and responded to the light. Pulse 65, and not very strong or full. Temperature was a little below 98° F. in the axilla. Moved his limbs readily enough when told, and there were no symptoms of paralysis, unless the thickness of speech and a slight drawing up of the left corner of the mouth were to be regarded as such. Concerning the latter, the doctor said he had received a cut on that side of the face, and that the drawing up of the corner of the mouth was the result, and Dr. Hamlin could recall the fact that he had noticed, as had others, this drawing up of the left corner when Dr. A. smiled, but at times it did certainly seem exaggerated. One member of the family said she had noticed it before the patient went to New York, and said she did not like to see him smile because it was so pronounced. So far as any mental change was concerned, nothing had been noticed, except that he was abstracted at times, and had given some of his friends the impression that he was offended and displeased with them. No importance had been attached to these symptoms, for they were supposed to be the results of overwork, and, indeed, to this cause was largely attributed his present condition; that exhaustion and an enfeebled circulation had produced a passive venous congestion, and that a low grade of meningeal inflammation had been the cause of the pain he had suffered at the base of the brain.

The plan of treatment decided upon was to renew the mercurial cathartic, continue the bromide of potassium, and to use ergot if there was not a speedy improvement. After the cathartic had acted, the patient seemed better, for he continued free of pain, and would answer questions more promptly, and the sleep was less profound.

Having been requested to assist in the care of the case, Dr. Hamlin remained during the night, and soon after midnight found that Dr. A.'s temperature began to fall; and fearing another "sinking spell," he at once began the use of stimulants and external heat, and in a measure prevented it, but the temperature went down to 97° F. in the axilla. May 11th was but a repetition of the day before, only the patient steadily grew worse. May 12th, in the morning, there was another lowering of the temperature and an increase of the stupor. He then hardly recognized his friends, and required a good deal of shaking and loud, sharp talking to rouse him at all. May 13th.—Just after midnight his condition seemed almost hopeless. He was breathing fifty and fifty-five times per minute, and seemingly with the air entering only the very uppermost part of the lungs. His face was of a dull, almost purple color. Temperature, 98° F. Pulse about 100, and very feeble. Dr. H. began the vigorous use of mustard to the spine, over the epigastrium, calves of the legs, etc. Dr. A. showed no signs of pain from the mustard, although it was kept on almost to blistering, but he would flinch from a slight prick of a pin. After an hour or so, Dr. Hamlin was gratified to notice a change in the respirations; they became slower and deeper, and as a consequence the color of the face began to change to a more natural hue. By daybreak it was apparent that reaction had fully set in. The pulse was 90, temperature, 100° F., the first time it had been above normal. A few leeches were then applied behind the ears, but they produced no appreciable effect.

As the day passed on it was evident the patient was improving, the sleep was less profound, and he could be readily roused to take food and medicine. About 4 P.M., after an unusually hard time rousing him, in which he was shaken roughly and slapped in the face with a wet towel, he suddenly waked and apparently in the full possession of his mental and physical powers. He greeted those about him with pleasure, talked of his visit to New York, his voice was strong and clear, memory unimpaired, and, excepting his physical weakness, he seemed as well as ever. The first ebullition of joy over, quiet was enforced, and except a tendency to falling into deep sleep and weakness, nothing seemed to remain to remind him of his illness.

Everything went on favorably for four days, when his bowels became irregular and constipated, and then his mind began to wander. He was back on the old camp-grounds of the army, trying to escape from the noisome effluvia of old sink-holes and the stench of too shallow graves. A twenty-grain dose of calomel was given, and with a most happy effect, for when his bowels were relieved his mind cleared entirely. He then gained rapidly. With slight support on either side he walked about the house. But in the course of a few days his bowels became deranged, and again his mind was clouded. Another twenty-grain dose of calomel was given, with equally happy effect as before, only it could be seen that he was just a little less active than before, both mentally and physically. He had for many years been affected with catarrh, and just then the secretion became much increased and very tenacious, and it seemed to collect in his throat, and caused him to strangle quite badly once or twice when taking food. Twice more were large doses of calomel given for conditions like those described, and each time with benefit; but each time the mind was left more sluggish and inactive. His remarks sometimes showed that his mind wandered; his replies to questions were correct, but came slowly, as if they cost him an effort to collect his thoughts. He was quite disinclined to talk. His appetite was good most of the time, and he frequently spoke of the relish with which he enjoyed it. From the fact that the evacuations, after taking cathartic medicines, the calomel especially, were very large, apparently quite out of proportion to the amount of food taken, and that there were some hardened fæcal masses, Dr. Hamlin suspected that there was an accumulation of fæcal matter in the bowels. The doctor frequently spoke of the great relief the first dose of calomel gave him, and said he felt as if it had started some "hard lumps;" but as Dr. A. had said his bowels were tolerably regular before his illness, Dr. H. did not then give much attention to it. The thick mass of fat in the abdominal walls did not permit a close examination, so a mixture of ox-gall, aloes, and calomel was given him, commencing June 1st, and the result was several large evacuations of horribly offensive fæcal matter, with some hard masses in the first few dejections.

On June 6th, Dr. H. found his patient quite stupid and a little feverish; temperature about 101° F.; pulse 100. Upon inquiry he found that the urine had been scanty all day, and on getting some the next morning he found it to contain a small quantity of albumen and long mucous casts. The urine was examined in the beginning of his illness, but neither casts nor albumen were found. The next day the quantity of albumen was greatly increased, and the temperature was 103° F. He now failed rapidly. June 8th, in the evening, in attempting to take some beef-tea he strangled badly and came near suffocating. He was relieved by drawing out the tongue, and clearing the throat by means of the fingers, but he never recovered from the shock, and died the next morning, June 9th, without a convulsion or spasmodic action of any kind, except that subsultus tendinum had been present to a slight degree for the last three days.

At the autopsy, performed fifty hours after death, the head and abdomen only were examined. The body was well nourished, no loss of flesh having occurred apparently. The abdominal organs appeared to be in normal condition, except that the kidneys seemed slightly enlarged and congested, and there were some hard fæcal masses in the colon.

On removing the brain it was noticed that the vessels on the superior surface were somewhat congested, but nothing very remarkable. At the base and over the posterior of it were evidences of meningeal inflammation. The membranes were thickened and opaque in places and the vessels enlarged, and between the cord and cerebellum were slight bands of adhesions. In the right ventricle were three or four drachms of serum, and two small cysts filled with a clear liquid were found in the choroid plexus. No other abnormal feature was discovered till a section was made through the *left frontal lobe*, when a tumor of about the diameter of a small hen's egg was discovered. It was harder than the surrounding brain-tissue, reddish in color, and apparently quite vascular. Its boundaries were not well marked, and the color faded away into that of the normal tissue surrounding it. It seemed to be confined wholly to the white portion of the brain, and occupied all that part of the white matter of the frontal lobe which a body an inch or an inch and a quarter could do, with its anterior border just touching against the gray matter of the front of the lobe, and covered by the second and lower part of the third convolution when looked at from the side.

After the autopsy revealed the location of the tumor, the history of the case was looked over carefully to see if there were any of the characteristic evidences present during life to locate the trouble in that region. First, pain in the frontal region was a rare thing. Secondly, speech was but little affected and only temporarily, and there was no convulsion, epileptiform attack, or hemiplegia, and so far as known the special senses were intact. The pupils were equal, and responded to light all through his illness. In regard to any paralysis, the temporary difficulty in swallowing, and the drawing of the left corner of the mouth were the most marked. The mental symptoms might be such as are said to accompany lesions in this region. During the progress of the case it came to be known that the pain at the base of the brain had troubled the doctor at times for over four years, and very severely occasionally.

Dr. Putnam-Jacobi remarked that the case was a very typical one of tumor in the frontal region, because of the absence of paralysis and the presence of change in character manifested by the patient. It seemed evident that there must have been some affection of several of the centres of motility at a distance, because of the change in respiration and the partial paralysis of the hypoglossal and the pharyngeal branch of the pneumogastric.

The President suggested that those symptoms might have been produced by the pressure caused by the fluid in the ventricle of the brain.

The Society then went into Executive Session.

Correspondence.

PORTAGIOUS: THE PROPER WORD TO DESCRIBE THE ETIOLOGY OF CERTAIN ZYMOTIC DISEASES.

To the Editor of The Medical Record.

Sir:—The admitted conditions under which certain of the zymotic diseases are now known to appear give their etiology a peculiarity which we have no word to describe. The want is not met by such words as contagious, infectious, epidemic, endemic, etc., as these are exceedingly elastic when used to assign a cause for such diseases as yellow fever, enteric fever, diphtheria, etc. They are even convertible terms, which have to the professional mind a vague definition, and the difference between contagion and infection, when sought by the popular mind, finds simply an impassable barrier.

There can be no question regarding the necessity in medicine for a word to describe the conditions under which zymotic diseases are propagated, and this may soon extend to other diseases if some experiments recently made by Cohnheim shall prove true, in which the communication of tuberculous matter was made from one individual to another, and the disease reproduced. The words contagious or infectious do not give the necessary etiology when we speak of yellow fever, typhoid fever, or diphtheria. They all may become epidemic. Their etiology cannot be conveyed to another mind by using the above adjectives, and I therefore propose, for these and similar diseases, to imply the conditions of causation under which they appear, the word Portagious.

This word describes the portable character of the yellow fever germ, or atmosphere, which may be briefly illustrated by two of the most striking selected from endless instances, viz.: 1, the case of its transportation from Havana, Cuba, to St. Nazaire, France, in the ship Anne Marie, after a long passage of fifty-three days, including the breaking out of the ship at St. Nazaire; 2, the case of the ship Hecla, which carried the disease from Cuba in the same year (1865) to Swansea, Wales, where it spread rapidly, in which the germ survived a passage of forty-five days. The foregoing from the report of Hon. John Simon, Chief Medical Officer of Great Britain.

The word also describes the portability and contagious character of typhoid fever, as we have numerous instances wherein this disease has been carried in milk, and in water which contained the disease germs. The distant propagation of this disease is illustrated briefly in the case of its transfer in the American ship "Flying Cloud," in 1864, when it was carried from Liverpool, England, to Melbourne, Australia, through a passage of sixty days. Before this the disease was unknown in Queensland. For further facts in this connection see *The Lancet*, review of Mr. William Thompson's "Report on Typhoid Fever," Melbourne.

The above trifling references are only intended to show that the facts of portability and contact are the real conditions under which these diseases reappear, and this particular part of their history the word portagious is intended to describe. Portability is a leading idea in the causation of every disease, whether the power be derived from animal life, steam power, the force of wind or wave, or the current of flowing water, and hence I am persuaded that the word will be found useful in sanitary and state medicine. When reference shall be made to yellow or typhoid fevers, as portagious, it will be understood that they are capable of transportation over great terrestrial distances, while they can be as readily absorbed if the individual be moved into the focal points of disease themselves.

The word is compounded from the Latin *porto*, to carry, French *porter*, and Spanish *portear*, and *tango* or *tago*, to touch.

The concise definition is, *to carry into contact*, and is precisely the prerequisite for reproducing a disease, the germs of which are portable.

Respectfully,
B. F. Gibbs,
Medical Inspector, U. S. Navy.

TREATMENT OF HEMORRHOIDS BY INJECTION.

To the Editor of The Medical Record.

Sir.—My letter to the Record of September 11th, on this subject, has shown several interesting points, among which may be noted the extensive circulation of the Record, the desire for more minute information as to the operation, and the anxiety of the profession at large to avail themselves of this method of treatment, despite the alleged superiority of other plans, all of which they will discard, as I have done, after they try this better way. The numerous letters which I have received from all parts of the union conclusively prove this. The first half-dozen were answered individually, but time will not admit of replies to the questions asked (some of them pertinent and others irrelevant), except through the able journal which has brought this flow of correspondence upon me. In brief, therefore, the following points are stated, with the hope that the ground may be covered to the satisfaction of all concerned.

1st. *The acid.*—I always use crystallized *carbolic* *acid*, enough glycerine (a few drops only) being added solely to render it *fluid*, not in any way to *dilute* it. My reason for departing from the method of others is that dilute solutions are absorbed, the rapidity thereof being in direct proportion to the thinness of the acid employed. This is evidenced by the patient *tasting* the acid after its injection, by disturbance of the general circulation, such as depression, faintness, and pallor. Concentrated acid acts locally, instantly, and thoroughly, and proportionately to the strength employed is the assurance of non-absorption.

2d. *The operation.*—Empty the bowel thoroughly by Hathorn Saratoga water, or its equivalent, the day before, and the rectum by enema an hour before operating. Do not inject during acute inflammation—"a fit of the piles." Put the patient in bed. Anoint the mass of tumors, after their extrusion, with *fresh* olive oil or cosmoline, to prevent accidental caustic action on the adjoining parts, especially in females. Use a good glass hypodermic syringe, with a tight piston, which moves easily, and a small, well-polished, and sharp needle. See that the needle is pervious to the acid (not to water) before commencing. Select the largest pile, and push the point of the needle to the *centre* only, and not beyond the tumor, then slowly inject from three to six drops. If the pile is as large as a small walnut, I put in three drops at one point, partially withdraw the needle, and deposit three drops at another point, and sometimes at a third. Inject only one pile at a time, unless they are small, when two may be attacked at one operation. Keep the needle *in* the pile for a few seconds before withdrawing it fully. The object is to permit the mass to harden before taking the needle out. If the pile bleeds, touch it with a piece of ice or the strong carbolic acid. Nothing worthy of the term "hemorrhage" has ever occurred to me, and I don't believe it can. No bleeding resulting, thoroughly anoint the tumors as at first, and return them within the sphincter. A suppository may also be introduced, but I prefer morphia hypodermically. I do not combine *anything* with the acid, although it has been suggested to add the morphia to it. Better use them separately. Keep the patient in bed, and in two or three days inject another if it exist, and repeat at this interval until all are done. The process mummifies and shrivels the hemorrhoids, and does not cure by inflammation. Now and then the whole or a part of the pile may slough, but the process is limited. If the acid goes into the cellular tissue, of course we will have trouble, just as in any other part of the body, but it has no business there. I only inject *internal* hemorrhoids, but for curiosity I, within ten days, injected a complete fistula, and the result has been a cure.

3d. *The result.*—After injection more or less pain is experienced, which is readily controlled by anodynes. Usually nothing beyond discomfort is felt, frequently not even that. The catheter may be needed, especially in old men, as in any other surgical interference in this locality. Any febrile reaction is treated by one-drop doses of tincture of aconite, repeated at intervals, and in debilitated subjects from two to five grains of sulphate of cinchonidia is *given* (not *exhibited*) three or four times daily. Light, unirritating, digestible diet, such as produce little fecal residue, no stimulants, and perfect rest is enjoined, until the end of a week, when the bowels may be gently moved, preferably by salines. After an uncertain, at least an undetermined time, the tumors disappear almost entirely, two post-mortems of persons dying from other disease about thirty months after operation showing only thickening of the mucous lining above the sphincter.

4th. *In conclusion.*—The operation is simplicity itself, it is almost painless, and rarely requires an anæsthetic; it is successful, and applicable to all varieties of hemorrhoids. I have given my own plan, with reasons for deviation from other modes, but, as is well known, all great surgeons modify everything in the way of instruments and methods of operating; the profession at large is therefore at liberty to do this operation in their own way—as it would not, by any manner of means, be compatible with dignity or self-respect to make it so unimposing as this narrative sets it forth.

William R. D. Blackwood, M.D.

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NITRITE OF AMYL IN CONVULSIONS.

To the Editor of The Medical Record.

Sir:—Willie R., aged two years and six months, while at play on the morning of August 12th, was suddenly seized with convulsions. I was immediately summoned, and on my arrival I found the child in an unconscious state, one convulsion following another in most rapid succession. The convulsive movements were confined almost entirely to the right side. My first impression was that the convulsions were due to functional derangement of the stomach and bowels, and the usual remedies indicated in such cases were resorted to, but no benefit followed the same. As the child was, in the meantime, rapidly becoming exhausted, and the necessity of doing something to control the convulsions more evident, I resorted to the use of chloroform and ether, but without succeeding in controlling the convulsions. I then used nitrite of amyl by inhalation. Placing four drops on a handkerchief, I applied it to the child's nostrils, and after a few moments had passed, the convulsions ceased entirely, and did not occur again till yesterday morning, August 13th, but were immediately controlled by four drops of amyl nitrite, and have not occurred since. A closer examination of patient reveals that the convulsions were evidently due to some cerebral lesion. The cranium is markedly asymmetrical; pupils unequally dilated, the left being much larger than the right. The head is not abnormally large, but the posterior fontanelle is perceptible, union not having taken place between the bone, and remarkably large, being an inch and a quarter in diameter at its base. There is evidently some serous effusion in the membranes of the brain. Child is now taking:

℞. Potass. iodidi	gr. x.
Brom. potass.................	gr. xl.
Aquæ	āā ℥j.
Syr. rhei.....	

Sig.—Teaspoonful t. i. d.

Child is well nourished, appears strong and healthy. On questioning the mother, I ascertained that she has lost two children, both dying in convulsions, which were like this one. I have used the amyl nitrite in a large number of cases, and, with few exceptions, it has been followed with good results. I usually administer five minims, dropping it into a small sponge, allowing the patient to inhale it. It causes the face to flush, and stimulates the lachrymal glands to a considerable extent. Great care should be used in the administration of the drug, as serious consequences might result from its injudicious use.

LEONARD F. PITKIN, M.D.,
Formerly Assistant Physician, Female Insane Asylum, Blackwell's Island.

RAVENSWOOD, LONG ISLAND.

LIQ. OPII COMP. AND TINCT. OPII COMP.

(Squibb.)

TO THE EDITOR OF THE MEDICAL RECORD.

SIR:—The difference between these two preparations does not seem to be generally appreciated by druggists, and twice during the present year has the tincture been dispensed to me instead of the solution. In one case the patient referred to some peculiarity in the taste of the medicine which led me to examine it, and I found that instead of the anodyne my patient had been using the diarrhœal mixture. In the other case I called personally for the liquor opii compositus, and the druggist gave me the tincture from a bottle on which was Dr. Squibb's printed label, giving a minute description of the liq. opii comp. On dropping some of this into water, at the house of the patient to whom I wished to administer the medicine, I noticed that there was again the substitution of the tincture for the solution. The druggist had labelled the small vial which he gavè me Squibb's compound tinct. of opium, although, as stated above, the bottle from which he had dispensed it was marked with Dr. Squibb's printed label of the *solution*. When I showed him the discrepancy he insisted obstinately that the two preparations were the same.

These mistakes occurred in very respectable drugstores, and I think it is not very surprising, since the names of the two preparations are so nearly alike. If no change in the names should be considered advisable, it is well to know that the tincture, when mixed with water, makes an opalescent fluid, and has an odor of chloroform, while the other produces scarcely any discoloration in usual doses. I have been in the habit of using the liquor opii compositus for several years, and found it an excellent preparation. Small doses, of ten drops, for example, seem to produce pleasant anodyne effects during the course of diseases like pneumonia, without any disagreeable reaction.

It is very desirable that it should be so clearly distinguished from the tinctura opii comp. that neither this nor the tinctura opii camph. should be dispensed in place of it.

F. A. BURRALL, M.D.

48 WEST SEVENTEENTH ST.

THERAPEUTICAL NOTES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR:—I transmit to you some formulæ which I have found exceedingly useful, after careful, repeated trials, for the following affections, from which patients who consulted me, either in my private practice or in my gynecological class in the Mount Sinai Hospital, Out-door Department, in this city, were suffering:

PRURITUS VULVÆ.

This exceedingly obstinate disease I have often permanently relieved if caused by an erythema, intertrigo, acne, eczema, or prurigo produced by vaginitis or endometritis. In the former, by warm injections of flaxseed tea with a solution of the aqueous extract of opium, together with a sitz-bath, lukewarm, twice daily for twenty or thirty minutes, and the subsequent irrigation of the vagina by means of a fountain syringe and adding from one-half to a teaspoonful of the sulphocarbolate of zinc to the quart of water, used every two hours while the patient lies in the horizontal position with her hips well raised. After each vaginal irrigation a tampon of carbolized or salicylated cotton, with some unguent plumbi and belladonnæ, is introduced into the vagina so that it prevents the external parts from being bathed in the secretions, often mucous, sometimes muco-purulent—which cause the excoriations at and around the vulva, the nates, and the inside of the thighs—and directing the patient to use in the evening, and also for one hour in the afternoon, applications of black wash—aquæ phagedenicæ nigræ. Where the pruritus or prurigo disturbs the patient's sleep, a hypodermic injection of morphia is given. The pruritus itself is greatly relieved, besides the above medication, by application of dilute tincture of iron or a twenty per cent. solution of carbolic acid. The most useful of all applications, however, for pruritus vulvæ, I have found the application of the balsam of Peru, of which I use the following:

℞.	Pulv. gummi arabic............	ʒ ij.
	Peruvian balsam....	ʒ j.
	Oil of almonds.................	ʒ jss.
	Rosewater.....................	ʒ j.

M. S.—Apply freely with a camel's-hair brush, eight or ten times a day, to the itching part.

This latter prescription, which has been first suggested by Hufeland, I have also used for the past nineteen years, with the most happy results, for sore nipples, applied every hour for a few days. It has never failed in my hands to cure this troublesome affection. I prefer this prescription to the use of borax and alcohol, the nitrate of silver, the zinc ointment, or the saturated solution of borax, highly recommended by others.

If the pruritus vulvæ is dependent upon diabetic urine, I have found, in addition to the means herewith recommended, the daily internal use of from six to eight drachms of glycerine, in teaspoonful doses, extremely beneficial. If dependent upon granular vaginitis, I am in the habit of touching each granule, after first scraping it off with the curette, with an exceedingly fine point of nitrate of silver.

The endometritis, if this is the cause of the pruritus vulvæ, is treated with laminaria or the curette; if dependent upon polypoid or fungoid or adenomatous multiple growths within the cervical canal or the cavity of the uterus, after which, if the whole uterine cavity has been dilated thoroughly so as to admit the finger to the fundus uteri, which generally takes, by means of laminaria, about thirty-six hours, with Churchill's tincture of iodine applied every three to four days; or, if there is much sensitiveness, I apply carbolic acid, drachma semis to the ounce of glycerine, upon the flexible uterine applicator, down to the fundus, leaving it in contact from five to ten minutes; or I irrigate the uterine cavity through a No. 6 male flexible catheter with a three per cent. warm solution of carbolic acid, always taking care, of course, not to make any intra uterine application unless the canal be thoroughly dilated, and that there is no inflammation in the substance of the uterus or its adnexa.

I have, within the last nineteen years, thoroughly tested the medication herewith recommended, and I have yet to see a case where I failed to permanently cure the most obstinate cases of either pruritus vulvæ, vaginitis, or endometritis, and the sore nipples which often undermine the health of mostly nursing women with very delicate skins.

In communicating these notes I claim no originality in the application of the medication recommended. The treatment has proved highly satisfactory in my gynecological practice, and I desire to recommend it to thousands of the readers of the MEDICAL RECORD who have not tried them.

Respectfully yours,
RUDOLF TAUSZKY, M.D.

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HYSTERO-EPILEPSY, OR HYSTERIA MAJOR.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR:—In a letter which I forwarded to the RECORD some few days since, I enumerated, as observable, at Salpêtrière, in the service of Prof. Charcot, a certain number of interesting subjects of study. But the extended scope of these subjects, the time at my disposal, as well, also, I fear, as the patience of your readers, will scarcely allow of that full discussion which under other circumstances would be desirable. I must, therefore, content myself with my first plan of more or less fragmentary notes.

There are many reasons why we should begin our observations with hystero-epilepsy. It is not alone that this disease is studied carefully and with a large number of patients at Salpêtrière, and that in itself it offers many attractions, but there is, furthermore, the consideration that around it, as a central point, are grouped, in various degrees of relationship, a variety either of associated or of dependent phenomena which we would like to glance at. Hypnotism, catalepsy, somnambulism, and the æsthesiogenic influence of metals (burgism), and of magnets, all seem to be the peculiar properties of hystero-epileptic patients.

It would not, of course, be allowable to reverse this statement and say, that every person susceptible to being hypnotized or mesmerized, to the somnambulic or cataleptic condition, or impressionable to metals and magnets, is a hystero-epileptic, for the latter term conveys the idea of a severe form of convulsive attack; but, certain it is, in the main, that these peculiar exhibitions are demonstrable in greater or less perfection in this disease.

Professor Charcot has proposed to enlarge the signification of hystero epilepsy by substituting for it the term *hysteria major*. Indeed, as matters tend now, there seem to be grounds for entertaining the opinion that all the varied phenomena above mentioned, whether occurring in male or female, may finally range themselves under this simpler title; though I have no authority for stating that the distinguished teacher alluded to would yet use this term in the broader sense I have just indicated. Be this as it may, we return without further discussion to the simple fact that around hystero-epilepsy, or more properly speaking, then, hysteria major, all these phenomena alluded to are in many instances grouped, and this, too, not alone during the few days in which the hystero-epileptic state itself ("l'état de mal hystéro-épileptique") exists, but also at any time during the long continuance of the disease. A single very important exception is the fact, now seemingly well established, that the magnet and other æsthesiogenic agents (metals, static electricity, the diapason, etc.) will produce either a transfer of an existing hemianæsthesia to the opposite side, or will, indeed, provoke a return of sensibility to an anæsthetic member, in conditions of anæsthesia arising from organic lesions (cerebral hemianæsthesia of Charcot). Clearly, this is a novel contribution to the treatment of hemiplegia, and it may yet have a share in changing the gravity of our prognosis in such cases. For the present, however, we leave the exception out of sight and proceed at once to examine the "great neurosis," hysteria major.

It is understood at once, of course, that this is a more or less permanent disease—that it presents various permanent symptoms, chief among which are the general or localized hemianæsthesia, the ovarian hyperæsthesia, and the periodically occurring convulsive seizures. It is the latter known as the hystero-epileptic attack which forms its most striking feature. And this attack furnishes us with an excellent starting-point of which I gladly avail myself at once, since, this very morning, I had an opportunity of watching it in all its details, and with the careful explanations of Professor Charcot, in the instance of a young woman named Dorizon.

After the usual morning cases had been disposed of, we entered the ward to visit this patient. She was then undergoing a series of attacks, which, however, for the time, were being held in abeyance by the aid of mechanical ovarian pressure. Dorizon lay calmly in bed, appearing quite her natural self, but with an apparatus encircling her waist, which is most quickly described by comparing it to an abdominal tourniquet—a strong elliptic band of steel passing around the body, penetrated in its upper portion by a powerful screw on whose lower end is attached a pad the size of a hen's egg. This pad can be forced by the screw down upon the ovary of one side or the other, and kept there at any desired degree of pressure.

Having called attention to this piece of mechanism, and to the natural condition of the patient, Professor Charcot requested the attendants to remove the apparatus. The patient expressed herself as strongly opposed to this plan and made some resistance, knowing well what would happen. Her scruples, however, were overcome, the screw loosened, and the apparatus removed. The effect, or rather one should say the result, was almost instantaneous. The removal of the pressure upon the ovary was simply like taking the brakes off of a machine wound up to go a certain time. The attack or "fit" at once began.

That the reader may be able to follow more intelligently what occurs, I place before him the four periods into which Prof. Charcot has divided the hystero-epileptic attack. These are:

1. Epileptoid, consisting of three phases, viz., *a*, tonic; *b*, clonic; *c*, resolution.
2. Contortions and violent movements.
3. Passional attitudes with hallucinations.
4. Terminal and delirium.

Single attacks as above delineated may last anywhere from five to fifteen minutes, and from twenty to two hundred of them may occur in a day, thus forming a *series* characteristic of the "hystero epileptic condition." This hystero-epileptic condition lasts from one to several days, and the patient then returns to a comparatively normal state. It may be easily diagnosticated from the analogous epileptic condition, likewise presenting a series of seizures, by keeping in mind the following points: there is no elevation of temperature; the seizures are arrested by pressure upon the ovaries; there are probably certain hysterogenetic regions where excitation will bring on attacks.

But as we have said, pressure was no sooner removed than the attack began. First, a pallor of the face, momentary, however, and straightway changing to a congested red; then a slight gasp, showing a constriction in the larynx; then a slow movement of the globes of the eyes upward, until the pupils disappear beneath the upper lid, and already the patient has completely lost consciousness.

At the same moment the head stiffens backward, throwing out into marked contrast the now swollen neck, the respiration has ceased or occurs in gasps, the facial muscles are contorted into a variety of fixed grimaces, the shoulders are raised and drawn forward, while the arms proceed to perform a peculiar rotatory movement, first rigidly and slowly flexing, then pronating, and again extending to their extremest limits, with the dorsum of the hand and the whole arm stiff, like a bar of wood, and held rigidly alongside of the body.

And simultaneously with the occurrence of these phenomena in the upper part of the body, tetanic movements are taking place in the legs. These latter are rigidly extended, though the ankles, like the wrists, are flexed. The patient's whole body is now in a state of perfect tetanic rigidity. This phase, long as it takes to describe, and long as it appears to the spectator by reason of its painful nature, ceases in about half a minute. It is evident at once that we have witnessed the tonic phase of the first period. But now, all at once, begin a succession of quick and jerking movements of the entire body, shaking the patient back and forth violently, and increasing in force up to a certain acme. It is evident, also, that this is the clonic phase. It also lasts some half a minute or more; then succeeds a perfect resolution; the muscles are relaxed, and the body lies flaccid; the face congested; the eyes closed; the respiration stertorous, and a slight amount of foam makes its appearance at the mouth. This phase of resolution occupies two or three minutes.

The whole scene, thus far described, presents, as the reader at once recognizes, a typical picture of an ordinary epileptic "fit." Here is loss of consciousness, and the regular stages of tonic and clonic spasms and resolution, with foam at the mouth and visceral spasm. This period, then, is well named epileptoid. Its duration is usually, as in the case of Dorizon, about three to five minutes, the tonic and clonic phases consuming much less of this time than the phase of resolution with stertor.

But the attack is by no means ended. A few seconds of silence follow the stertor, and now Dorizon enters the second period. Lying flat on her back at the outset, all at once she begins a series of violent bounding movements of the body, executed by suddenly arching the back upward until she rested on the vertex and the balls of the feet, and then dropping back on the bed and flexing her body in the opposite direction, to gain a start for a new opisthotonos. The scene, what with these bounding movements, becomes a very violent one, until she suddenly remains fixed, bent like a bow, resting now only on her head and toes, in the position called l'arcade cercle. Soon the body again falls to the bed, and Dorizon goes through with various contortions, uttering at the same time cries, and struggling to escape, as it afterward appeared, snakes, which she believed were trying to bite her. Her appearance is maniacal.

Another short silence now ensues as the patient enters the third period. Her manner has changed; her face expresses delight; she is evidently under the influence of vivid hallucinations—in most instances, as in hers, of a sexual character. This stage, with Dorizon, was short, but was very characteristic with Witt, another patient of the same kind, seen half an hour later in an attack. Witt's every motion and look expressed that she was at the same stage of the sexual orgasm.

The fourth or terminal period was equally well defined. Dorizon returned to her senses and looked about her intelligently, though evidently under the influence of hallucinations. She still imagined that snakes were trying to bite her, and in the next breath would talk of a man at the window whom she regarded as a lover.

Such is a regular hystero-epileptic attack, as seen in Dorizon and in many others in the wards. After the first or epileptoid period is over there can be no doubt that a certain amount of intention pervades and guides the patient's movements. It is noticeable that, during the second period of contortions and violent movements, she never injures herself against the iron rails of her bed, but in her most violent scenes carefully keeps to the mattrass. However, intention on her part by no means indicates simulation, for in all lands, and under the most varying conditions, this period presents exactly the same characteristics. Simulation under such independent conditions would fail to follow in grooves thus similar.

It is now too late in the day to doubt the genuineness of such attacks as we have just described, granting at the same time that that universal element of exaggeration which enters into most of the acts of the hysterical here, also, in hystero-epilepsy, plays its usual, and, it may be added, also its predicable part.

We have thus far followed Dorizon only through a single attack, somewhat in detail, it is true, and with a few explanatory diversions, no more, however, it is hoped, than are necessary to render the nature of the attack clear. The patient had no sooner "came out" of this first seizure than she immediately fell into another, and so on, repeating in one attack after another all the features I have described, until the scene became as monotonous as distressing.

It now remains to record the most interesting, perhaps, certainly the most practical feature of Dorizon's, as well, indeed, as of all similar cases. The attack may be arrested at any period, or phase of a period, in short at any moment, by strong pressure upon the ovary. It is sufficiently remarkable to see violent contortions and the hallucinations of delirium vanish as if by magic, but it is still more remarkable to see the lost consciousness instantly return. This was what was demonstrated to us again and again in Dorizon's case. Taking the moment of the tonic stage (abolition of consciousness, suspended or jerking respiration, rigidity of the body, cyanotic face, etc.), Professor Charcot pressed both hands firmly down into the iliac fossa upon the ovary. Dorizon was at once herself, capable of answering questions intelligently, looking about naturally, and her body without any rigidity. But suddenly the pressure is remitted, and again the poor girl goes on through all the now familiar periods, to use a simile already made use of, like a piece of wound-up automatism, stopped for a moment by the hand, and again moving on when the arresting power is removed. In this same manner these hystero-epileptics will go on through their *series* of attacks, until the hystero-epileptic has exhausted itself, unless they are treated by methodical compression of the ovary.

The question as to which ovary is to be compressed is, of course, decided by examining to see which side of the patient is anæsthetic, for the hemianæsthesia and ovarian hyperæsthesia are on the same side. In the case of Dorizon the right side was perfectly sensible to pain, while on the left no amount of injury, such as pinching and transfixing folds of her skin with large needles, produced the slightest evidence of pain. It was then the left ovary only upon which pressure caused an arrest of attacks.

But the ovary is not the only point at which pressure will cause an arrest of attacks. In most cases, by careful search, a small and circumscribed "hysterogenetic zone" may be found, at which slight excitation will produce, while strong pressure will suspend an attack. The position of this zone is different for different patients, and must be ascertained for each by observation and trial. Frequently it is situated on the back, between the upper part of the shoulder-blades. In Dorizon's case it happens to be just below the outer third of the clavicle. Her attacks were frequently arrested by pressure upon this point as well as upon the ovary.

But however important ovarian pressure may be to the practitioner in enabling him at once to relieve the patient from a given attack, it is time to ask if this measure produces any permanently curative effects upon the disease. According to Professor Charcot, methodically pursued, it lessens the number as well as diminishes the severity of the attacks. It is for this reason that he makes use of the instrument I have already described. There are difficulties, however, in the way of maintaining the pressure continuously which lessen its practical effect as a permanent curative process. For the continued treatment of hystero-epilepsy there are other efficacious remedies. These are ice-bags to the ovary and inhalations of ether and of nitrite of amyl, described at length in the recent second volume of Charcot's "Leçons," etc., and in "Iconographie Photographique," edited by Bourneville and Regnard. We therefore make no further allusion to treatment here.

And at this point we leave this aspect, viz., the "attack" of hystero-epilepsy, reserving for another time certain other features of the disease—a disease certainly comparatively common here in France. It may be asked, Where are our hystero-epileptics in America? To find a thing we must sometimes look for it, and pick it out of confusing surroundings. Its symptom-picture once clear, it springs into view on every hand. It may be that hystero-epilepsy is a rare disease with us. At all events I will not here undertake to answer the question.

And what is the practical bearing of this study, conducted now for several years with so much care by Professor Charcot? The practical value of this work lies in having taken up the hitherto confused story of hystero-epilepsy, and in having brought order out of chaos; in having marshalled into line, under a simple law whose immutability is at once recognizable, the diverse phenomena of the disease; in having shown, in short, that, in accordance with this law, all the symptoms of hystero-epilepsy could be resolved into groups, and that each group was related to another in an invariable order of succession and development. It is this analysis which established, that what was at first glance so evidently epileptic was epileptic only in outer form, just as is the case in certain other diseases of the nervous system, where convulsions are epileptoid without being epileptic.

The term hystero-epilepsy, then, is a misnomer; there is no epilepsy present. The disease is really, as we have already intimated, hysteria major, while the hysteria of every-day practice must be called hysteria minor—the one the fully-developed disease, the other rudimentary. Knowing the completed pattern of a hysteria major, it is easy to fit into their proper places the fragmentary and detached phases of a hysteria minor. Here, then, in this nomenclature—this division of hysteria into major and minor—lies a great advance. Not only has hystero-epilepsy become an intelligible disease, but in becoming hystero major it has thrown a brilliant light upon ordinary hysteria, and rendered its manifold phases clearer to the practising physician.

Very truly yours,
William J. Morton.

Paris, August 7, 1880.

ARMY NEWS.*

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 19 to September 25, 1880.

Munn, C. E., Capt. and Asst. Surgeon. To accompany the battalion of the 4th Cavalry, which is relieved from duty with the Ute Expedition, to Fort Garland, Col., and then proceed to and take post at Fort Hays, Kan. S. O. 210, Department of the Missouri, September 21, 1880.

Winne, C. K., Capt. and Asst. Surgeon. Relieved from duty at Fort Brady, Mich., and assigned to duty as Post Surgeon at Fort Schuyler, N. Y. H. S. O. 167, Department of the East, September 21, 1880.

Reed, W., Capt. and Asst. Surgeon. Assigned to duty as Post Surgeon at Fort Ontario, N. Y. S. O. 167, C. S., Department of the East.

Richard, Chas., First Lieut. and Asst. Surgeon. Relieved from duty at Fort Snelling, Minn., and assigned to duty as Post Surgeon at Fort Maginnis, M. T. S. O. 110, Department of Dakota, September 15, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending September 25, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Sept. 18, 1880.	0	14	25	0	10	59	3	0
Sept. 25, 1880.	0	19	36	2	16	74	0	0

The "Epizootic" Fever has been prevailing among the horses of Boston.

A CASE OF SUDDEN DEATH DURING ETHER ADMINISTRATION.—The rarity of cases of sudden death during the use of ether, as an anæsthetic, makes the report of the following case, made by Mr. R. N. Hartley in the *Lancet*, of unusual interest. The patient was a gentleman, aged sixty-six, who had complete obstruction of the bowels, probably in the lower part of the descending colon. It was decided that the only hope lay in opening the bowel in the right lumbar region.

Before the operation the patient's pulse was found to be rather quick and small, but not inordinately feeble. The heart was healthy, and there was nothing to contraindicate the use of an anæsthetic. Ether was administered by Clover's smaller inhaler, two ounces being the quantity contained in the ether-chamber. The patient took the anæsthetic without any trouble, and in two minutes was quite under its influence. He was then placed on his left side, with the head lower, and the operation was commenced. The patient was not allowed to become carbonized, and the inhaler was frequently withdrawn. In ten minutes from the beginning of the operation, the pulse beating strongly, the patient vomited a quantity of brownish fluid, smelling of brandy. He then took one deep inspiration, and seemed as if inclined to vomit again; but his head sank bank on the pillow, and he quietly died. Efforts at resuscitation did not avail. He had inhaled a little over an ounce of ether. No post-mortem was made. Mr. Hartley thinks that two circumstances contributed to the fatal result: first, the distention of the bowels with gas, thus perhaps interfering with the action of the diaphragm; second, the undoubted tendency to death from asthenia in cases of abdominal obstruction.

THE DEATH OF PROFESSOR BUHL, whose researches into the histology of tubercle gained him a wide reputation, is announced.

DERMATOLOGY IN AMERICA.—We do not often hear concessions to our pre-eminence in any branch of science from across the ocean. The spontaneous acknowledgment by the *Lancet*, therefore, of the superior standing of dermatology in this country should be gratifying, though it is only just. The history of the rise of American dermatology, as given by Dr. Duhring, is recapitulated, and the good work done by its specialists is commented on. "All this reminds us," it says, "of the need for an examination of the state of things at home, which certainly compares unfavorably with that abroad." The lack of a dermatological society and journal in Great Britain is deplored.

PHOTOGRAPHING THE RETINA OF A MURDERED WOMAN.—An old woman was brutally murdered a short time ago at Sandy Hill, in this state. Not the slightest cue as to who was the perpetrator could be found. As a last resort, the retinæ of the eyes were exposed and photographs taken of them. It is not stated what the result was.

ALLEGED IRREGULARITY OF A MEMBER OF THE RICHMOND COUNTY (N. Y.) MEDICAL SOCIETY.—At the annual meeting of the Richmond County Medical Society, held July 7, 1880, the following resolution was unanimously adopted:

Whereas, Dr. ——, at the meeting of the American Medical Association, on June 4, 1880, offered a resoution impeaching the standing of the Richmond County Medical Society on account of the alleged former irregularity of one of its members; and whereas, this society is in possession, after careful inquiry, of evidence showing that the member referred to has been recognized as in regular professional repute since his graduation, and that his position in this respect was known to Dr. —— at least as long ago as in 1869; therefore,

Resolved, That the above-mentioned resolution, offered by Dr. ——, must have been known by him to be utterly invalid as regards the standing of the Richmond County Medical Society, and could only have been prompted by an intent to injure the character of a physician whose record has been before the profession for many years.

Resolved, That a copy of this resolution be forwarded by the secretary to the principal medical journals.

W. C. WALSER, *Secretary*.

[We omit the name of the gentleman who moved the resolution, in order to divest the question of all personality and narrow it to a mere statement of fact. Besides, the vindication of the character of the society in question rests with the Judicial Council of the American Medical Association, to which body the charges have been referred.—ED.]

DR. F. P. STEPHENS of this city, is the author of the interesting article on the sphygmoscope published in the issue of September 11th.

MUSHROOMS ON THE RED BLOOD-GLOBULES.—The doubts regarding the scientific value of Tanner's fast may now be said to have been eternally set at rest. A distinguished professor, whose reputation as a chemist, etc., is world-wide (*vide* daily press of July last), took some of Tanner's blood just at the close of the fast. Examining it under a microscope, he found certain vegetable fungi growing upon the red corpuscles. These corpuscles were smaller than normal, and, projecting from the surface were numerous little protuberances — the fungous growths. Nearly all the red corpuscles were affected in this novel and unpleasant manner. The white corpuscles, however, were not touched, which showed, we think, an ill-judged discrimination, as they are considered to be fresher, juicier, and without the unpleasant chalybeate taste of the red. However, the facts are as stated, and we have had the pleasure of seeing a woodcut of the whole business.

The theory offered to explain these appearances is that, as the organism became more and more deficient in nutritive supply, a tendency to disintegration set in. But nature, showing here, as ever, her wonderful conservative power, did not allow these animal cells to be decomposed at once. They formed, in their weakness, a suitable food for lower vegetable organisms. These fed upon the red blood-corpuscles, and at the expense of them. At about the fortieth day they had got out in full force, and were having a delicious gory time with Tanner's blood. In a day or two more they would doubtless have eaten the globules all up, and left the plucky faster with nothing but vegetable protoplasm and a few white blood-corpuscles floating through his anatomy.

The above interesting and novel changes are described in a prominent and usually careful scientific journal. The phenomena of crenation were, perhaps, not sufficiently considered by the world-renowned chemist.

COLOR-BLINDNESS AND THE PHYSICAL EXAMINATION OF SEAMEN.—Surgeon-General John B. Hamilton, in a letter to the Secretary of the National Board of Steam Navigation, Capt. B. S. Osbon, gives the following interesting particulars regarding the physical examinations of pilots and other seamen that have so far been made by the Marine Hospital Service :

"Briefly, I may say that up to June 30, 1880, there have been examined by the Marine Hospital medical officers 2,870 pilots and masters, of whom 65 have failed to pass the surgeon, 64 for color-blindness, and 1 because he was too old to see, having what is technically known as "corneal opacity." Of other persons examined, amounting to 838, 43 have been rejected—7 color-blind, 9 heart disease, 6 rupture, 2 consumption, 7 chronic syphilis, 1 Bright's disease, 3 varicocele, 1 hydrocele, and 7 from other causes. Most of these examinations have been from revenue marine vessels. But few merchant vessels have availed themselves of the privilege, although our books show that since 1873 this service has received and treated from merchant vessels 2,731 cases of consumption, 641 of heart disease, 136 of varicose veins, 98 of aneurism, 2,752 of ulcers of the leg, 5,800 of secondary syphilis, 482 of Bright's disease, 30 of cataract, 314 of hernia, 1,335 of stricture, 62 chronic insane, and 133 epileptics—making a total of 14,468 persons physically incapacitated for seafaring pursuits, and represents an almost incalculable loss of time on shipboard, and indirect loss of the shipping interests, to say nothing of those chronic "bummers" discharged with three months' pay in foreign ports. There are two things in which I should like the assistance of your society: one is in the passage of a law for the compulsory physical examination of seamen before shipment, and the other is the establishment of a National Snug Harbor for those worthy seamen and officers who become permanently disabled in the line of duty. This latter institution could be largely supplied by the incurables from the hospitals. Another thing, we need a good hospital in the port of New York. We treated last year 24,780 men, an increase of more than 3,000 over the previous year."

The Board authorized a committee to memorialize Congress for the establishment of a National Snug Harbor.

The Gabble of Science.—The tendency nowadays to bow down to science, and to measure everything by its scientific standing or importance, has a ridiculous side as well as a good one. The London *Times* comments as follows: The popularization of science has its drawbacks, and perhaps not the least of them is the sort of worship, analogous to that of very young ladies for the curate of the parish, which is offered by silly people to those who are—or, more frequently, who are supposed to be—the chief representatives of scientific learning. The absurdities of the so-called æstheticism are not peculiar to gentlemen who lunch upon the sight of a lily, but have their close analogies among those who profess to be scientific. There is a scientific jargon as well as an art jargon, both of them, in the lips of most people, concealing, or it may be even exposing, the most profound ignorance of the respective subjects of discourse. And there is a widely spread want of knowledge that the writer who has most successfully popularized a given question is not of necessity the one who is best acquainted with its depths.

Spontaneous Cure of Pulmonary Consumption.—Dr. Heitler, of Vienna, found in 16,562 autopsies 780 cases of "absolute tubercular patches." Of these, 503 were in men, 277 in women. It is inferred that they represent cases in which the phthisical process spontaneously ceased.

Baltimore as a Medical Centre.—The city of Baltimore has had some very nice things said, and justly, about its prospects as a medical centre. It has of late, however, been receiving sharp criticisms at the hands of a correspondent of the *Cincinnati Lancet and Clinic*. This writer says that the medical profession in Baltimore is not prospering in the same proportion with other things. Its societies are few in numbers and have little enterprise, while, as to the schools, "this great city," he says, "cannot be proud of a single institution where medicine is taught in a thorough and dignified manner. Up to the close of the war medical education here was good; since that time it has been indifferent, and may now be called bad." Describing what he calls "the mysterious management of the medical teaching," he says that the College of Physicians and Surgeons states the following in its catalogue regarding tuition fees: "*Students paying full college fees*, $120; *College fee for privilege students*, $35." The peculiar feature of this is that the *privilege students* are those whose fees are commuted, "in conformity with the usage of the times," and whose names are known only to the Dean.

The same state of things prevails in the medical department of Maryland University, as is shown by its circular. "The fee for attendance on the complete course of lectures is $120. In accordance with a usage, etc., etc., ... such students as are unable to pay full rates are admitted at the charge of $50 for the professors' tickets."

On this the very natural comment is made that after reading these paragraphs no medical student would feel able to pay the full rate; and it may be safely presumed by outsiders that the $120 rate is simply ornamental, and that the regular rate of the colleges is that put down for "privileged students." "My inquiries," adds the correspondent, "so far have not discovered that a chromo, along with the other inducements, is offered to each student, a device which it is not too late for the Baltimore institutions to appropriate."

The *Maryland Medical Journal* denies many of the imputations against the medical standing of Baltimore. We should be glad to learn that something could be said regarding the commutation system of its medical colleges. There was a rumor that it was to be abolished, but the above accounts do not seem like it. If the matter is as represented, the Baltimore fee system needs discussion. If a college charges but a small fee, it ought to say so. We never could see anything very vicious in the small fee system; if students were compelled to have a decent preliminary education, and if they would then be put through a long and thorough course of instruction, there could be no harm from small fees.

Dr. Henri Nachtel, by whose instrumentality the Night Medical Service in this city was established sailed with his family for Paris, on Wednesday September 29th. He had the great satisfaction of seeing, before his departure, the practical working of the system for which he has labored so hard, and for which he has made so many personal sacrifices He will take with him the best wishes of his numerous friends in this city.

Dr. Sigmund, Professor of Syphilis in the University of Vienna, having reached his seventieth year, will retire upon a pension.

The Medical Society of Virginia meets at Danville, Tuesday, October 19, 1880.

Original Lectures.

THE CURE OF CONSTITUTIONAL DISEASES BY THE USE OF GLASSES.

A Clinical Lecture

By D. B. ST. JOHN ROOSA, M.D.,

PROFESSOR OF OPHTHALMOLOGY IN THE UNIVERSITY OF THE CITY OF NEW YORK.

(Reported for The Medical Record.)

Gentlemen:—One of the first lessons a medical man has to learn is not only what he can do, but also what he cannot do. When a physician has acquired the wisdom which will enable him to do nothing when he should do nothing, he is far on the road to knowledge. The tendency among most young practitioners, so far as I know, is to do too much. When an ophthalmic case falls into his hands, unless there has been thorough discipline in a long hospital course, the young practitioner is very apt to put on a shade, a pair of glasses, a blister, a bandage, confine the patient in a dark room, apply nitrate of silver, lower the diet, and so forth. This kind of mistaken practice does much harm, and therefore a great deal of my instruction is an attempt to prevent you from doing too much.

When Donders explained to the profession the great advantage which a large number of people, heretofore without relief for their eyes, could obtain by the use of glasses, he accomplished something for medical science which cannot be overestimated; and to go much farther back than Donders, to the time when an Italian adapted the magnifying power of glass to assist the sight of aged people, we can say that this unknown man did that which made him worthy of a monument and a grateful remembrance. The same may be said of him who suggested giving concave glasses to myopes. That man did a great service to the world. If Gustavus Adolphus had had concave glasses, I think he would have not only won the battle of Lutzen, but also saved his own life; but, as he did not have them, he was unable to distinguish his own colors and became entangled among the Austrians and was killed. His inability to see objects at a distance—and in those days there was no artificial aid to vision—led him to suppose that the enemy were his own men, and the life of a great general was sacrificed.

These three suggestions: that by Donders—glasses for hypermetropia and astigmatism, that of the use of concave glasses for myopic persons, and then that of the Italian of convex glasses for old people, were great deeds, and no words of mine can adequately express their value to the human race. But when, from these great discoveries, we go to the extreme of thinking that glasses can cure general affections, such as chorea and epilepsy, then you may be sure that the wave of medical opinion has gone too far, and that the time for its return has come.

I am led to this kind of an introduction to the subject of the lecture to-day—the cure of constitutional disease by the aid of glasses—by the fact that it is claimed, by one writer at least, that by the aid of prisms and convex glasses very great results may be obtained in the relief of such diseases as chorea, epilepsy, and hystero-epilepsy.

It is claimed that many reflex nervous phenomena are caused by disproportionate power between the external muscles of the eye and the ciliary muscle. I believe in certain reflex nervous phenomena as affecting the nutrition of the eye and vision. I believe, for instance, and I was one of the first to show it in a clear manner, that if a man or woman or child needs spectacles and does not wear them, he or she is very apt to have inflammation of the edges of the lids, which is very intractable unless the error of refraction, the trouble for which the glasses should be worn, is corrected by the use of glasses. *But* I do not believe that all cases of blepharitis are caused by failure to wear glasses. I believe that a great many cases are influenced unfavorably, and that some are *caused* by this trouble. When, however, the theory was advanced that chorea was entirely a reflex phenomenon, I was startled. When the theory was advanced that hypermetropia—especially if complicated by astigmatism, a condition in which there is a congenital shortening of the antero-posterior diameter of the eyeball—if uncorrected, was the cause of a great deal of chorea, and that it could be cured by the aid of convex glasses, I was, I say, startled, and I proceeded with my fellow-practitioners at once to investigate the entire subject. What did we find as the result of that investigation? We found, in the first place, that chorea existed before any one knew sufficient to prescribe glasses to correct hypermetropia; and we found also that it was recovered from before anybody knew that glasses were prescribed for the correction of hypermetropia and astigmatism. Furthermore, we found that quite a proportion of children were born hypermetropic, and yet never had suffered from chorea. We found also that quite a proportion who had chorea did not have hypermetropia. With such facts I think the bottom went out of that theory—for these facts are all upon record—as thoroughly as it ever went out of any tub that was completely demolished. All there was left of this new theory was this, namely—in the treatment of any disease everything which you can do to put the patient in a normal condition, as regards seeing and hearing, or the performance of any function, will contribute in some degree, perhaps, toward recovery. Every man is bound to know all he can concerning his patients. The improper performance of any function may militate against recovery, but one should not hastily argue that chorea is caused by an error of refraction, because such patients are very often hypermetropic, myopic, and astigmatic. The large majority of the world are thus affected, yet cases of chorea are exceptional.

Dr. C. S. Bull, of this city, prepared a paper, showing the conclusions I have already stated, which was published in the Medical Record, after having been read before the New York Medical Journal Association. [See Medical Record, vol. xii., page 339.]

Pursuing this line of investigation, I examined twenty students from this college, who never had had severe inflammation of the eyes, as far as they knew, who had spent their lives in study, but who never had suffered from weakness of vision or asthenopia. I then put them under the influence of the sulphate of atropia, which, as you know, puts the eyes at rest so that no accommodation can be employed, and I found that a very large percentage, all but one or two of them, were hypermetropic. Of course the inference was that if these men, who had lived all their lives with a degree of hypermetropia quite equal to what was said to be able to cause many serious diseases, and yet did not either suffer in their eyes or in their bodily figure from any nervous disease—the inference, I say, was natural that hypermetropia did not necessarily cause these troubles. I should also say that none of these men were short-sighted. They could all read the bottom line of Snellen's test-types at twenty feet.

These observations gave ground for the suspicion that a majority of mankind are either hypermetropic or myopic, and I believe that these results will be obtained by any examination which may be made among the people of any nation. Dr. Ely has extended the same line of observation to very young children, and has found that of those which were not myopic, seventy-one per cent. were hypermetropic. Now, then, should not a man be very sure of his ground when he states that so many evils flow from uncorrected latent hypermetropia? Should he not at least be a little suspicious that hypermetropia is only one of the factors causing these troubles?

These same remarks apply to uncorrected myopia and astigmatism. Their relief by glasses is a great boon, but there is no proof that they often cause serious reflex phenomena, except such as are intimately connected with the eye—blepharitis, headache, and so forth.

If you will study Donders'* cases, you will see that those people who receive the greatest benefit from the use of convex glasses are chiefly those in whom the hypermetropia is so great that it can be readily discovered. In such cases glasses improves the vision at once, and Donders' discovery has done for them what I said at the beginning was of the greatest value, and conferred benefits upon the human race which cannot be easily overestimated. Unfortunately for this country, we might have had the advantage of Donders' discovery years before, had Prof. Dewey's article been published in a medical instead of a chemical journal, for our American professor had fully shown the value of convex glasses in correcting hypermetropia. Donders never made any such claims for convex glasses as have been made by those who cure general disease with them. We find in his work very little indeed about these reflex phenomena which are cured nowadays, or said to be cured by the use of glasses. Mention is made of headache, a constricted feeling about the edges of the lids, watery eyes, photophobia, in short, symptoms which have been grouped under the term asthenopia, but nothing whatever is said relative to the cure of chorea or epilepsy or hystero-epilepsy, or general disease. That was reserved for later investigators.

Since the promulgation of the theory that chorea is caused by an error of refraction, and is cured by wearing glasses, a further step has been taken by its author, Dr. Stevens, of Albany. So far as I can judge from his paper, Dr. Stevens no longer has the faith in the cure of chorea by the use of spherical and cylindrical glasses that he once had, but he now believes that a proper training of the ocular muscles, by means of prisms and tenotomy, will not only cure chorea but also epilepsy. At the late meeting of the Medical Society of the state, this gentleman read a paper, in which he claimed *that functional nervous diseases are beyond any and all other causes dependent on anomalous conditions of the refraction or accommodation of the eyes, or upon imperfect action of the muscles of these organs*.

The cases presented by Dr. Stevens as illustrations of his theories, and which are said to have been cured by glasses, exercise of the ocular muscles, or by division of the recti, are epilepsy, hystero-epilepsy, chorea, intense and long-continued headaches. A course of treatment by means of prisms was said to be often effectual. In case this failed, division of one set or other of the muscles was said to be curative in many cases.

Let us now study for a few minutes together the effect of prismatic glasses when placed before the eye.

These two diagrams* represent a convex and a concave lens. If you divide the convex lens in the middle, you will have two wedge-shaped pieces of glass, or prisms, with their apices forming the outer extremities of the lens. If you divide the concave lens in the same manner, you will have two wedge-shaped pieces of glass, or prisms, with their apices in the centre.

Now remember what a convex lens does. It converges the rays of light in the manner shown in the diagram;* the light is refracted toward the bases of the prisms.

What effect has a concave lens upon rays of light? It disperses them—that is, the rays of light are bent toward the bases of the prisms of which it is made up.

This makes you ready for the experiment which I will perform. I take a colored glass (red), put it before one eye, and then I put a prism, with its base upward, before my other eye, and then I look at the candle, twenty feet distant, and describe what I see. I see a red light above, and I see the actual light below. I have double vision. My prism has bent the rays of light coming from the candle toward its base, and has made an image upon that eye at a different point from that at which the image has been made upon the fellow eye; consequently, instead of having single binocular vision, I have a double image and double vision with two eyes produced by prisms. Now let me reverse the conditions, and place the base of the prism before the internal rectus. I see two images, the red light upon one side and the natural light upon the other. The displacement is to one side, instead of being above or below. By using my external rectus muscle very vigorously, as impelled to by the desire for single vision, I can blend these images.

I place the prism before the opposite eye, and by a strong action of the internal rectus muscle I can again blend the images. A point is reached when I use a very thick prism when the images on the retina are so wide apart, that I cannot blend them with all the power I am able to exert with the rectus muscle.

The eye is turned excessively inward or outward as may be necessary to neutralize the displacement of the retinal image made by the prism. This is what is technically called "overcoming" a prism, and blending the double images caused by it.

What occurs when I blend these images in this manner? This excessive convergence or divergence is of course a squint. If you were to look through the glass prism in front of my eye as I am performing the experiment of blending the images of the light, you would see that my eye was squinting.

The theory of Dr. Stevens is, that if a patient is suffering from persistent headaches, or from nervous phenomena of a vague sort, or from general constitutional disease, such as hysteria, epilepsy, and hystero-epilepsy, he may often be relieved by training of his external muscles by the use of prisms. The experiments I have made show the kind of training the muscles receive. Unless a theory is contrary to all the laws of common sense, it is not scientific to deny the possibility of its truth until it has been tested by the accumulations of facts bearing upon it. I will not, therefore, stigmatize this theory, that serious affections of the general system are caused by a want of co-ordination between the recti and the ciliary muscles, or between the different sets of recti, as an absurd one. But I do not hesitate to say that I believe it to be an untenable one. The author's own cases do not seem to me, so far as I have heard of them and seen them, to sustain his theory. As to my own observations, they are all against the theory that gymnastic exercise of the internal and external recti muscles does very much for asthenopia, except in a very few cases; much less for constitutional disease. Indeed, almost all the oculists of my acquaintance in New York use prisms very little indeed even for the cure of want of power or paralysis of the internal or external recti. Time was when they did, but then their experience has shown that the estimate of their value in local affections was an exaggerated one. But let me recite you a specimen case which I have lately seen, and which induced me to speak to you upon this subject.

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*Accommodation and Refraction of the Eye.

* A reference was here made to diagrams on the blackboard.

A young woman, æt. 19, was brought to my office a few days ago, on account of a headache, which was said to be constant during the day, but not of sufficient severity to interfere with sleep at night. She was found to be myopic and astigmatic, but the correcting glasses made her vision normal. She was a pale, delicate-looking young person. What do I mean by delicate? A delicate person is one whose muscles are not well developed, who is not capable of continued physical exertion, does not bear extremes of heat or cold well, has a capricious appetite, indigestion upon the slightest provocation, cold hands and feet. This patient had suffered the loss of two members of her family from a disease which seemed, from the history obtained, to be of a tuberculous nature. Her father was a strong, robust man, and exceedingly well. Her mother was said to be strong and vigorous. We examined her vision with the result indicated. We examined her internal recti muscles, and found that she was able to overcome a prism of 30° refractive power at a distance of ten inches.

The prism required by both myself and Dr. Ely, under the same circumstances, was also noted.

Dr. Roosa has the power to overcome a prismof 26°. Dr. Ely can overcome a prism of 24°.

Besides, the external recti muscles of this young woman, which are never so strong as the internal recti in a normal condition, overcame a prism of 18°. Dr. Roosa had the power to overcome a prism of 17°, and Dr. Ely only a prism of 10°. The results of the examination of the muscles of Dr. Ely and myself show about what men can do with their eyes; for we are both well, yet our ocular muscles are not as strong as those of this patient.

The father of this patient is a physician, and he informs me that this headache was attributed to a want of power or of co ordination of the internal recti, and that exercise by means of prisms having been tried in vain, it was now advised that the external recti muscles be cut. Do you think that the appearance or the history of this patient proved that her headache had anything to do with the condition of her eyes? I do not. Her myopia was corrected, and her muscles, as shown by tests, were in as good a condition as those of men who use their eyes constantly. It is not logical, I think, to conclude that her headaches were caused by trouble with her ocular muscles. In my opinion the headache of this young woman depended upon the obvious anæmia and other general conditions favorable to its existence. Fresh air, iron, good food, may do something for her, but glasses will only correct her myopia, and division of the recti will produce double vision. Such an operation on such a case is, in my opinion, an unjustifiable one. She needed no operation. She *did* need red blood-corpuscles, and hence all the oxygen which pure atmospheric air could give her. She *did* need the very best kind of food, carefully chosen and most properly prepared, and she also needed all that a carefully regulated mode of living and exercise could bring to her. Besides, she needed to have her eyes thoroughly let alone; and that is what I meant when I said at the beginning of this lecture, that if man learns when to do nothing he has learned a great deal.

I have seen no case of epilepsy or chorea that are benefited or cured by the use of spectacles or prisms. I have seen several such as the one I have detailed, where they have failed to relieve much less serious diseases. My opinion is that even in the matter of the relief of weak eyes, or what we call asthenopic symptoms, the value of glasses is more circumscribed than was supposed when Donders' discoveries became the common property of the profession. This seems to be the opinion of those who participated in the first triumphs that ophthalmology won, when the ophthalmoscope and the value of correcting glasses were discovered. Now that we have come to the proper estimate of their value in local affections, we are asked to believe that a panacea is found in prisms and division of the external muscles for diseases of the nervous system. I for one cannot accept this new and very meagrely supported doctrine. All the philosophy of disease is against its truth. But before this, for our philosophy may be wrong, the facts are, in my opinion, entirely wanting to sustain such a doctrine.

I believe that when the argument that convex glasses, prisms, and tenotomy, in general disease, has been fairly understood, and been fairly put before the profession, they will see that it is probably not founded upon accurate observations. I do not know that I can add to this general statement. To recapitulate: glasses for the old, as invented by an Italian; for the short-sighted, as invented by an unknown man, and for the young who are hypermetropic, as their use was suggested by Donders, are an inestimable boon; but it remains to be proven that the use of glasses, either convex or prismatic, or division of the external or internal recti muscles, will cure any constitutional affections, such as chorea, epilepsy, and hystero-epilepsy.

* * *

Tasteless Cod-liver Oil.—Dr. Pontive recommends the following proceeding to disguise the taste of cod-liver oil. A tablespoonful of the oil is thoroughly mixed with the yolk of an egg and ten drops of spirits of peppermint; then half a glass of sugared water is added, and the whole stirred to make an emulsion. In this way both the taste and odor of the oil are completely disguised, and the patients take the medicine without the least repugnance. The cod-liver oil is also rendered miscible with water in all proportions by this process, and being completely emulsified is more readily absorbed in the alimentary canal.—*La France médicale*, Aug. 22, 1880.

Original Communications.

REPORT OF A CASE OF TALIPES EQUINO-VARUS,

Successfully Treated by Continuous Stretching.

By CHARLES F. STILLMAN, M.D.,

NEW YORK.

In a paper read before the Surgical Section of the American Medical Association, at its last meeting, I suggested the use of an adjustable bracket as a curative agent in cases of club-foot which were too much deformed to admit of being placed in an ordinary shoe, and also as a substitute for tenotomy in a great number of cases, believing that a gradual reduction by stretching the contractures in an opposite direction from that in which they had taken place would, in a majority of cases, obviate the necessity of tenotomy, even in those cases where spasm following "point-pressure" upon a stretched tendon was present.

In verification of my assertion at that time, I desire in this paper to report the cure of a case of talipes equino-varus of seventeen years' duration, by the means which I at that time proposed, and which in this paper will be presently detailed.

It was a fortunate circumstance that tenotomy was steadily refused by the parents of the patient during all these years, as it offered a case uncomplicated by the use of the knife for a demonstration of the practicability of the plan proposed, viz., of reducing a foot deformed for so long a time by the simple means of gradual and continuous stretching in the proper direction.

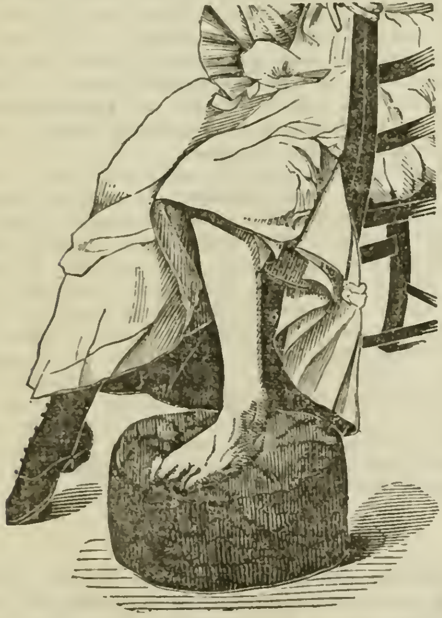

Fig. 1.

Miss Lizzie V——, æt. 19, Plainfield, N. J.; when twenty-two months old had brain fever, which resulted in paralysis of one leg. For several months after her general recovery she could not use the limb, but afterward walked with the assistance of various braces, which were successively abandoned.

An abstract of a letter from her father reads thus: "We were then advised to take her to one of the professors of the Fourteenth Street (New York) Medical College (not now in existence) for treatment, which we did. He gave a lecture on the subject to his pupils, and then desired to operate on her foot; but, adhering to the advice of our family physician never to have her tendons cut, we withdrew at once. The foot continued to grow worse, much deformed, and very weak. About this time I made a metal attachment or side-prong to her shoe, which seemed to be of more benefit than any brace before used, and this she has continued to wear up to the time when she passed under your treatment.

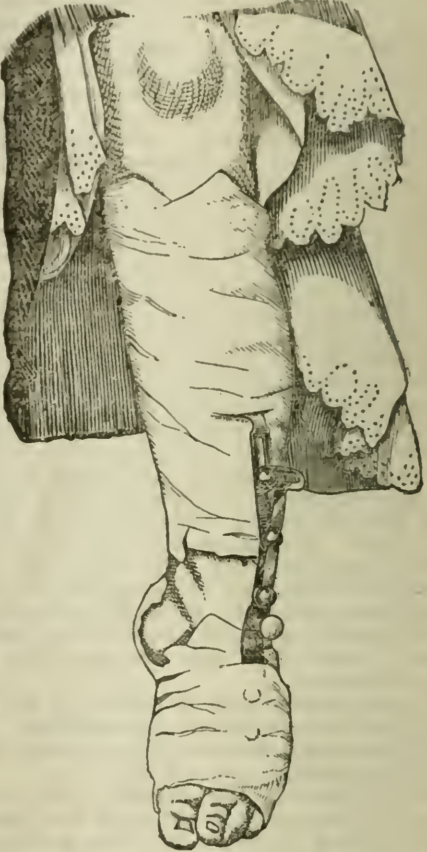

Fig. 2.

"All this time the foot has been growing steadily worse, although she could limp to school, though at times her foot became very painful, owing to the many corns on the side of the foot and ankle on which she walked. We have had the limb examined by many surgeons, all of whom advised the knife, which we have as steadily rejected."

Patient came under treatment July 15, 1880. Her deformity was a club-foot of the equino-varus form, and of seventeen years' duration. After putting the "tendo Achillis" on the stretch, as also the plantar fascia, and pressing with the end of the thumb upon them, reflex spasm was produced—this spasm being considered by those who advocate tenotomy as an indication for that operation.

The foot was atrophied in all its proportions, bent sharply in the middle, and twisted inward and downward. The os calcis was lifted upward by the contracture of the muscles of the calf of the leg, and twisted inward from the vertical line of the leg. The second and third toes overrode the first and fourth, the fifth being turned outward and flattened. The surface of the foot over the instep was prominent and unequal, and indicated displacement of the tarsus. The internal malleolus could not be seen. The external was extremely prominent, and covered with a large callosity. There were also callosities upon the edge of the foot, above the sole. The fissures in the sole were deep, and the whole plantar surface wrinkled and distorted. These wrinkles extended up the internal edge of the foot in great profusion. The leg measured one inch shorter than its fellow, the shortening of the tendo Achillis being one and three-quarter inches. The peronei and tibialis anticus muscles were atrophied, and the entire leg and foot were bluish, heavily veined, and of lowered vitality.

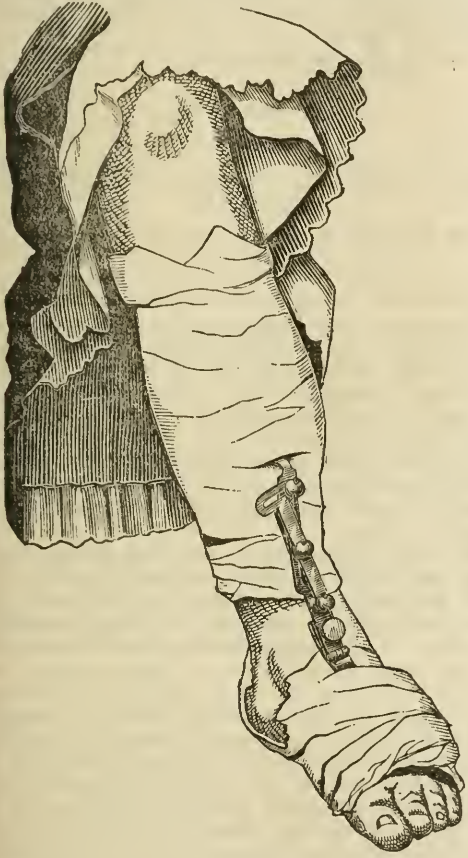
Fig. 3.

Fig. 1 illustrates the condition at its best, the young lady having placed the foot so as to show as little deformity as possible. The foot was placed in my compound bracket, as in Fig 2, by Dr. J. S. Green and myself, and in six weeks the heel was down upon the floor, and the lateral twist of the foot at the medio-tarsal joint corrected (see Fig. 3), so that when the bracket was removed the foot touched the floor normally, the toes being spread out naturally (see Fig. 4). The movements allowed by this compound bracket are two: one being directed to bringing down the heel by a graduated constant stretching of the muscles of the calf, and the other to gradually replace the anterior half of the foot in its proper relations to the posterior, this process proving to be without pain, and it did not confine the patient to the bed or the house, but allowed her to walk upon the foot under treatment.

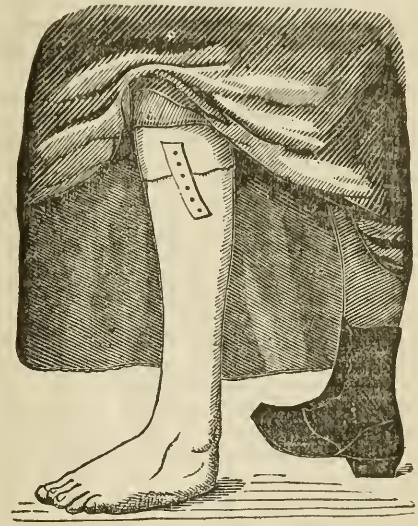
Fig. 4.

One of the satisfactory changes which took place in the condition of the foot above described, during the stretching process, was the improvement in its vitality and nutrition, owing to the re-establishment of the normal relations between the parts of the foot, and between the foot, as a whole, and the leg.

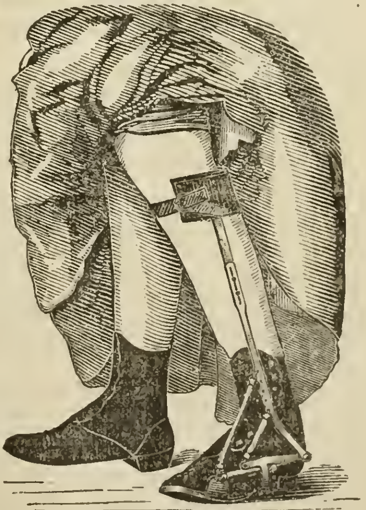
Fig. 5.

At the expiration of six weeks the foot was placed in one of the patient's ordinary shoes and my club-foot *brace* attached (see Fig. 5), and after two weeks' use she reports constant progress, the foot constantly improving in shape and size, and the muscles of the calf increasing in circumference, the actual increase of the calf since the beginning of treatment (exactly two months) being two inches.

My elastic brace is really a combination of the essential principles of the various club-foot shoes, with the essential principles of Barwell's system of elastic muscles. It possesses the very great advantage over Barwell's system of instant removability, being taken off and put on at pleasure, and furnishing at the same time, which Barwell's does not, an articulated, firm support on the outside of the leg, preventing the ankle from turning. It allows the patient to wear a close-fitting, easy shoe, as in a normal foot, and has no constriction or encirclement of the limb or foot other than the shoe, below the girth about the calf, allowing all the natural movements of the foot full play, simply assisting Nature's efforts to guide these in their proper direction. It is light, inexpensive, and lasting, and may be readily attached to any shoe.

The weight of the body is the most powerful agent for good or bad which we have in the treatment of club-foot, and the most important factor also in its production. If the relations of the foot are wrong, the weight of the body tends to increase the deformity; but if, by an elastic retentive apparatus, we can put the foot into its normal relations, the weight of the body tends to press out the angularities and keep it in proper shape by a power just in proportion to the weight of the person and the amount of walking and running that is done. This is one of the best features of my elastic brace, that it not only allows, but actually assists the walking, and consequently is a powerful agent for permanent cure.

The rigid part of the brace has but one *fixed* attachment to the legs below the knee, and that by a girth about the upper part of the calf of the leg, corresponding to the origin of the muscles, and one *movable* attachment by a pivot in the centre of motion of the foot, so that beyond protecting the ankle-joint and stiffening the shoe from the heel to the mediotarsal joint by the arch plate, to which is attached the pivot, these fastenings possess no regulating power over the foot in the least, except when the shoe be attached to the brace by rubber cords.

Now, let us look at the uses of the three elastic cords attached to the club-foot brace.

1. The cord, passing from the extremity of the horizontal strip to the angle of divergence in the vertical strip, controls the extension of the foot at the ankle-joint, and acts against extra contraction of the tendo Achillis.

2. The everting cord, passing from the instep strip to the toe of the shoe opposite the base of the little toe, acts in place of the peroneus brevis, having practically its origin in the immovable girth about the calf and its insertion in the sole considerably anterior to the mediotarsal joint, giving it a tremendous everting power if the girth be fixed immovably, as shown in Figs. 4 and 5.

3. The abducting and rotating cord passes from the base of the little toe to a point in the brace near the girth, supplying the place of the peroneus longus, and acting against the anterior and posterior tibial muscles, whose contraction causes the deformity, and as it is inserted at a point in the sole which is really the apex of the deformity, a power is exerted in exact proportion to the length and strength of the elastic tubing, twisting the anterior half of the foot directly contrary to the tendencies of the contraction.

The pivot insertion below allows the foot to be everted or inverted at will, without in the least impairing the support of the ankle; and any apparatus like those now in use, which allows motion of the foot only upward and downward, does not fulfil the indications.

The phrase "centre of motion of the foot" deserves a little explanation. If you stand upon one foot, and raise the other from the floor sufficiently to suspend it from the hip, rotating it slowly inward and outward, both heel and toe describe arcs of circles of different diameters. Now, while the foot is rotated outward, pass an imaginary line bisecting it longitudinally, and when inward, pass another imaginary line bisecting it, and the point of intersection of these two bisecting lines is the centre of motion of the foot—a line passing through this point and hip-joint being the line of direction of the leg. So that the centre of motion is the proper point to place a pivot if you wish lateral or rotary motion of a foot in the highest degree.

No. 101 West Thirty-fourth Street,
Sept. 15, 1880.

A REPORT OF

THREE TYPICAL CASES OF NEURASTHENIA.

By WILLIAM F. HUTCHINSON, A.M., MD.,

PROVIDENCE, RHODE ISLAND.

(Read before the Rhode Island Medical Society, Sept. 15, 1880.)

Mr. President and Fellows of the Society:—At the request of the presiding officer of this body, I beg leave to present you with a few observations upon that condition of the system which is now generally termed Neurasthenia. The cases upon which these remarks are founded number about forty; but as there is so extreme a similarity between those arising from similar causes, I have concluded to consider but three, each of which is fairly typical of its class.

The term "neurasthenia" was first brought into general use, if, indeed, it was not first coined by my friend, Dr. Beard, of New York, to whom both profession and laity are indebted for a most masterly exposition of its symptomatology and treatment. Its very name—deprivation of nerve strength or force—would seem to be a sufficient definition, but in such an one causation would be entirely neglected. While, then, neurasthenia may co-exist with plasmic change, and be the result thereof, it is not in that connection that it is most frequently observed, or has demanded a specific etiology. It is when there has been no organic decay, no profound disturbance of the peripheral nerves proceeding from central disease, that we most frequently encounter this condition. It is by no means confined to the idle, luxurious classes who have hitherto held almost a monopoly of functional nerve-derangements, but attacks the brain-worker and the hand-toiler alike. Heredity, so far as this identical form of derangement is concerned, can rarely be traced—that is to say, that while the family history of a large majority of sufferers is distinctly nervous. I have not been accustomed to find any trace of the disease itself extending backward. Its rapid increase in frequency and its facility of management have increased almost *pari passu*, and the chief difficulty about it seems the tendency to cavil at its existence, or lightly pass it by as merely a new and fashionable form of hysteria.

In about one-half the cases which have fallen under my observation, the patient has been treated by excellent physicians for grave organic disease, and the real condition neither suspected nor cared for. It would, therefore, seem probable that a more thorough appreciation of the gravity of this affection, and of some of the methods of successful treatment therein, would lead to better results—might at least induce a more careful consideration of its importance.

Some one has said that a proper enjoyment of religion is out of the question when one has dyspepsia. So enjoyment of any of the good things of this life is beyond the reach of an exhausted set of nerves; and if this condition of things be not really disease, it is capable of simulating it with a faithfulness to model that is highly uncomfortable to the sufferer. Practically, whatever interferes with general co-ordination of function constitutes disease; and, if neither pathology nor pathological anatomy have as yet revealed any lesion for the one in question, it does not the less actually confront us. As Putzel says: "It appears to us that undue importance has been hitherto attached to anatomical investigations in the study of the pathology of functional diseases of the nervous system, and too little to the clinical symptoms of these diseases and to their etiology." It is, indeed, to their clinical study that we must turn for results—for cure. It matters little, gentlemen, if we fail to discover the exact morbific lesion in any case under treatment, if such treatment be followed by cure. Do not let me be understood as in any way decrying the brilliant results of late pathological study. I do but claim, in functional nervous derangements, the greater value of clinical observation. Our patients wish simply to get well—to be rid of certain distressing sensations which destroy both usefulness and comfort—and it is that course of study which shows for results practical success, which must obtain in America, when people have very little loose time in which to theorize upon subtle distinctions.

In entering upon the discussion of this subject, I have chosen from my note-book these three cases, which will illustrate, pretty clearly, the marked difference in the three prominent phases of neurasthenia, viz.: cerebral, gastric, and genital.

CASE I.—*Cerebral Neurasthenia.*

A. B——, æt. 36; nativity, Rhode Island; married, four children; height, five feet ten inches; weight, 170 pounds. Father died at 63 years, of consumption, as did also one sister at the age of 30. Has never had any severe illness, except a slight attack of erysipelas in 1870. While serving during the civil war, received a severe blow upon the head with the handle of a pick-axe, which stunned him completely for a short time, but was not sufficiently grave to demand hospital treatment. Some months afterward, while exposed to the sun, was prostrated by the heat, which, however, only kept him off duty for one day. Dates first attack of neurasthenia from 1867, when, in a room full of company, he became very uneasy and was obliged to leave. Shortly afterward, while in a theatre, became faint, but sensation soon passed off. These attacks gradually became more frequent, and once or twice fainted completely away. Finally, he found himself obliged to avoid crowds or crowded places altogether, having a fear of such amounting to terror—anthropophobia. By so doing, he managed to get along comfortably for five years, when, one day, without any previous warning, he felt a sensation of strain in the upper cervical region, followed at once by a difficulty in walking—a decided dragging—first of one foot, then of the other, accompanied by a balancing totter. This soon wore off, and only came on at intervals—finally, altogether disappearing. Has felt a sensation of pressure in back of head, temples, and spine at various times. Has frequent auræ pass down back and legs. His present appearance is that of a strong, healthy man, with nothing abnormal apparent at a glance, except wide dilatation of the pupils. Is easily excited when he cannot sit still, moving limbs restlessly. No difficulty of locomotion, no pain anywhere, and is able to keep track of a large accounting business without trouble. Coming into the city, finds two or three open places which he cannot force himself to cross, and goes a long way around to avoid them—topophobia. Appetite capricious. Sleeps fairly, with constant dreams voluptuous in tendency, but no seminal emissions. Bowels regular. Urine normal. Pulse, 76, thin and nervous. Temperature, at first observation, 101°. Tests for skin sensation and muscle strength gave negative results. Ophthalmoscopic examination revealed nothing abnormal. Tendon reflex perfect—both patellæ and Achillis.

A rigid examination of the chest was likewise negative in results. Both lungs and heart were in normal condition. Electric muscular irritability normal. Upon applying a powerful galvanic current to the spine, two points of irritation were found, the upper over the first lumbar vertebra, and the other over the sacrum.

From the complete absence of all physical signs of organic disease, and the long remissions between attacks of any kind of malaise, and from a general consideration of the case, I placed it under the heading of our first group—cerebral neurasthenia, from its clearly cerebral origin. The only treatment adopted, or that will be advised in the case, is a complete change of residence. Medical treatment, in skilful hands, has failed; and it does not seem to me that much can be done besides assuring the gentleman that he has really no disease whatever, and had better see what a radical change of environment will do.

CASE II.—*Gastric Neurasthenia.*

C. D——, æt. 47; nativity, New York; widower for eleven years; two children; five feet seven inches in height; weight, 126 pounds; in health, 170 pounds; dark complexion, hair, and eyes. Facial expression anxious in the extreme, with dark circles around eyes and deeply corrugated supercilii. General appearance bad—from great weakness and occasional hectic. Has borne the journey from Manchester down very badly, and I was obliged to postpone an examination of the case until he had rested for several days. Father and mother both dead, of intercurrent disease in advanced age. Has lost two half-brothers with consumption, and has a full sister who is excessively nervous. His own children, two sons, are in excellent health, exhibiting, however, strong traits of a nervous diathesis. Has had three attacks of inflammatory rheumatism at intervals of about five years, the last one about five years ago, but knows of no ill results therefrom. Since the last rheumatic attack, has been quite well in every respect until about eighteen months ago. After drinking a large quantity of lager beer, some dozen glasses or more, was attacked with severe nausea and long continued vomiting. This culminated in congestive irritation of the entire digestive apparatus, attended by obstinate constipation. From that time this difficulty, at first acute, gradually assumed a chronic form, and has thus far not been relieved, although short intervals of remission have been observed. Had, at the onset, frequent nocturnal emissions, which have now ceased. Is nervous to a distressing extent. Sheds tears upon any sudden emotion, and finds it impossible to keep still a moment. Some muscle is constantly in motion, the movements closely resembling chorea. Suffers no pain beyond a constant gnawing at pit of stomach. Sleeps tolerably well, with frightful dreams. Mind perfectly clear, and, up to date, has successfully carried on a large mercantile business. Physical condition: extremely emaciated, the skin of the abdomen hanging in folds; bowels flattened and empty; liver normal in size and painless: stomach distended with gas, but presenting no sensitive points to pressure or to percussion; loud borborygmi. Pulse, 68, slow and feeble; temperature, axilla, 99.8°. Forearm muscle test with dynamometer gives irregular, jerky contractions, of one-fifth normal power. Considerable hyperalgesia of skin. Retina and choroid pale, and retinal arteries shrunken. No papillary change. Electric irritability normal, and tendon reflex present. Urine phosphatic.

Patient was referred to me by Dr. Crosby, of New Hampshire, from whose skilful hands he had received unavailing treatment for a year.

Here is a distinct case of nerve-exhaustion dependent upon what is actually starvation, which, however, has not produced, as yet, any appreciable organic change.

CASE III.—*Genital Neurasthenia.*

E. F——, æt. 32; born, Massachusetts; contractor; five feet nine inches in height; weight, 125 pounds; dark complexion, hair, and eyes; married, four children.

Father died four years since with œdema of lungs and mesenteric cancer. Mother living, in good health. One brother died of consumption, and a sister of cerebral dropsy. Has never had any attack of severe illness, although never very strong. Has suffered for seventeen years with habitual constipation, and has always lived in the open air. Pretty regularly, about once a month, has severe nervous headaches, lasting some forty-eight hours. Suffers from pain and weakness over lumbar region. From early manhood has had an enormous sexual appetite, and, being gifted with extraordinary copulative power, has abused the function. His statement is that he cannot recollect a single entire day passing without sexual intercourse for many years—except when, from circumstances, it was impossible—and that the habit is indulged in up to and at the present time. His general aspect is that of a busy, earnest worker, at first glance, apparently healthy. But inspection reveals the usual prominent neurasthenic signs. Pupils widely dilated, uneasiness and general restlessness, cold, clammy hands, and a curious, peering expression are the surface trade-marks visible.

When asked to extend right hand and right forefinger, grows excited and can scarcely do it. When extended, the limb becomes tense, and tremors pass in undulations down its entire length. Temperature, axillæ, 100°. Pulse 100, bounding and thin. Retinal congestion present to slight extent, with incipient optic neuritis. Lungs and heart normal. Urine loaded with urates. Has an indescribable fear of his bed, although sleeps well, with few dreams. Has from five to seven hundred men in charge, and conducts successfully a very important industry. Genital organs of perfect development, the only abnormal appearance being a double varicocele. Has never had any specific disease.

We have here another clear case, so far as causation is concerned, and that causation defines the group to which it belongs—the genital.

Of all the instances that have thus far fallen under my observation there has not been one which could be classified under any other head than one of the above, including in the genital group all those arising from uterine or ovarian derangement. Nor is it likely that any such will present itself from the nature of the case. As to treatment, there is absolutely nothing like a change of environment. In the cerebral group will be found a more general tendency to hopelessness than in the others, which may best be combated by words of kindly encouragement and cheer, for in these cases it is safe to promise, with very considerable certainty, a cure.

In the gastric group a careful attention to diet is the first requisite, and I am in the habit of directing absolute quiet and rapid feeding; in the case mentioned a teaspoonful of liquid food was given every fifteen minutes, night and day, for a week.

In the genital group sudden continence was tried, with a bad result, and it was found necessary to permit a continuance of sexual indulgence, controlling, so far as possible, the morbid tendency thereto.

Medication in all forms amounted to little, if some placebo-like preparation of phosphorus be excepted. This always worked well. I have entirely eschewed the bromides in neurasthenia, finding a depressing effect from their exhibition which is far greater than in organic disease, and far more difficult to rally from.

So with opium and its alkaloids. Patients of this class cannot be trusted with any form thereof, so exceedingly apt are they to acquire the opium-habit from lack of tone in the voluntary processes.

Besides, I have noticed a curious reaction from a narcotic dose of morphia in several cases, wherein the general hyperalgesia, so to speak, of the nervous system was markedly increased, accompanied by choreic muscular contractions.

In place of these drugs I am accustomed to use lactucarium and hops, the sedative effects of which combination are sufficient in the majority of cases.

Alcohol in some form is almost a *sine qua non.* I am well aware that this is a delicate point upon which to touch, but an absolute *noli me tangere* is inconsistent with scientific study. Certain pathologists state that alcohol is never a food; that it is excreted from the human economy unchanged, etc. Others, with equal fidelity to experimental result, are certain that it is absorbed, and is a direct nutritive. With these disputes I have nothing at present to do, but turn again to clinical observation as affording far more reliable data for results than pathology. The plain facts are, that neurasthenic patients gain in nerve-strength and improve in general condition very much faster when a small amount of alcohol is added to their food than without it. And, as cure is the object at which we aim, I always order alcohol, using some form of light wine, and stopping short of an amount sufficient to flush the face. Electricity, in all its forms, is, in many cases, the only actual treatment required, and in all yields invaluable aid.

Central galvanism is employed on alternate days with general faradization, and its administration is followed by exceedingly agreeable nerve-stimulation without subsequent reaction. The galvanic battery used should be a permanent one, of some form of Daniell's cell, as giving a current of low tension and large quantity. Faradization induced from a short coil by a cell of high tension, like the carbon-zinc arrangement of Grenet, is less likely to give good results than that from a long coil, induced by a large Smee or several Daniell's cells.

Change of environment, as said before, is of the utmost importance. New scenes, new surroundings, new associates, with all the subtle influence of change, will often prove potent in effecting a cure when all else fails. Especially when the mind is involved to any extent is a move essential, and, when made, it is well to have it as great and as radical a change as is possible.

Reports of Hospitals.

BELLEVUE HOSPITAL.

Reports of Practice and Peculiarities of Treatment.

TWELVE CASES OF EMPYEMA.

(Reported by William S. Cheesman, M.D., House Physician.)

During my service as house physician at Bellevue Hospital, the following twelve cases of empyema have come under my immediate observation:

1st. Michael B——, blacksmith, æt. 26. The patient was first taken ill twenty-six months ago (from the time of writing) with pain in the left side, cough, and dyspnœa, but was not confined to bed. Two months later he was aspirated; the fluid then drawn, he states, was clear. Within three days he had a chill, followed by fever, and had to take to his bed. On admission, he was emaciated, had pains and much dyspnœa, the left chest being nearly full of pus. Was aspirated on several occasions, and, in all, 137 ounces of pus were thus removed, each time with temporary relief. At last, about one and one-half months after admission, a free opening was made in the left side, between the eighth and ninth ribs, and 200 ounces of pus were evacuated. The cavity was washed out regularly with carbolized water, and the hectic gradually ceased, permitting the patient to do light work about the ward. About six months later, it became necessary to resect a portion of two ribs which had necrosed under the constant contact with pus. This allowed the chest-wall to fall in, partly closing the cavity. The patient improved, and left the hospital, but returned again some three months ago because he was unable to work. The cavity has not closed. The discharge amounts to about five ounces daily. He now has an enlarged liver, and his urine contains albumen and casts; it is supposed that both liver and kidneys are undergoing amyloid changes. He washes out the cavity daily, and is free from hectic, but looks cachectic. The diseased side is much retracted, measuring three inches less than the sound one.

2d. Josephine C——, æt. 33, actress. On admission, the patient stated that she had been well up to three weeks before, when she was taken with sharp pain in the left side; she coughed up mucus and blood, was short of breath, and slept only under the influence of soporifics. It was manifest that no care had been taken of her. Physical examination indicated the presence of fluid in the left chest. The heart was dislocated, and beat just internally to the right nipple. The hypodermic showed the fluid to be pus. Aspiration was performed, and 937 c.c. of pus were withdrawn affording much relief. Six days later, sweating, pain, and dyspnœa returned with the reaccumulating pus, and a free incision was made between the eighth and ninth ribs, twenty ounces of pus being evacuated. Constant drainage was secured by a long rubber tube leading to a vessel containing carbolized water, and placed under the bed. The heart gradually returned to its position, in two days reaching the median line. Sixteen days after the operation, œdema of the lungs set in, which was several times diminished by cups and stimulants, but, finally, the patient succumbed. No autopsy.

3d. James N——, æt. 17. When admitted, this patient was suffering from croupous pneumonia of the lower lobe of the left lung. The attack was severe. the evening temperature being 104° + for four days, and once 105°, the patient delirious much of the time, and a petechial eruption appearing over the thighs and abdomen. On the seventh day of the disease, the râle redux was heard. The temperature did not fall with that sudden plunge characteristic of croupous pneumonia, but dropped gradually, reaching 100° on the tenth day. It never fell below this. Soon afterward the patient began to complain of pain in the left side, and the temperature began to rise again gradually. Eleven days after the râle redux had been heard there were signs of fluid in the left chest, but the hypodermic did not find it till two days later. It then drew pus. The patient was aspirated, and 340 c.c. of creamy pus were evacuated. Temperature range elevated. One month after the presence of fluid was first suspected a free incision was made, and two quarts of pus let out. Drainage-tube inserted. Washed with carbolized water twice a day. Patient slowly improved; in a month could sit up, and in two months was walking about the ward. Three months later, the affected side measured two and one-quarter inches less than the sound side. It is now thirteen months since the side was opened. The patient is in very fair condition, can work, and has good appetite. But a sinus remains which discharges about two drachms a day; the left side is much retracted, and the patient deformed thereby.

4th. Geo. A——, auctioneer, æt. 39. For about six months the patient had been losing strength and coughing, and had sought relief in drink. Three days before admission, while cutting grass with a sickle, he was seized with a sudden pain in the left side, whereby he was rendered helpless, and had to be put to bed by friends. On admission his temperature was 104°, and all over his left chest were heard metallic, amphoric breathing and voice sounds, with the metallic tinkle and splashing sounds on succussion. The side was resonant, did not bulge, fremitus was unaffected, and the heart was displaced to the right. Hydropneumothorax due to phthisical perforation of the lung, was diagnosed. Kept in bed, the patient rapidly improved. The fluid in his chest did not increase. He was able after a time to sit up, though suffering considerably from pain and dyspnœa. He had most comfort when lying on his stomach. It was not until three months after admission that the fluid in the side increased and aspiration became necessary. Then 200 c.c. *serous* fluid were withdrawn. Twelve days later he was again aspirated, and 840 c.c. *clear serum* drawn off. Nine days later aspirated again, and fifty-three ounces of a turbid fluid containing much pus were evacuated. Seven days after, again aspirated, and 360 c.c. *pus* removed. Five days later a free incision was was made and the chest washed out, but in two weeks the patient died exhausted. No autopsy.

5th. James H——, æt. 65. When admitted to the hospital the patient presented the physical indications of fluid in the left pleura and consolidation of the right apex. It was a long time before the fluid was reached by the hypodermic and shown to be pus, and the patient was then much weakened by hectic. The empyema was encapsulated, and when opened discharged about twelve ounces pus. The patient did not long survive the operation. At the autopsy there were found phthisis of the right apex, and an empty cavity bounded by adhesions in the left pleura.

6th. Ransom S——, æt. 12. When admitted, this patient had been ill about two months with pain in the right side, fever, cough, and sweats. Two weeks after he was first taken he began to cough up blood and pus, which soon became offensive. On admission he looked very thin and worn. Temperature range high. The physical signs indicated fluid in the right chest, which, when drawn by the hypodermic, was very fetid pus. He was continually expectorating a similarly offensive sputum. The diagnosis of empyema with perforation of the lung was made, and in view of his miserable condition it was decided to open the chest and put a stop to further purulent absorption. This was done two days later, but the empyema being encapsulated, and the knife introduced a little outside of the encapsulation, it became necessary to break down adhesions to reach the pus, which was accomplished with some difficulty. The cavity was thoroughly cleansed and the expectoration ceased, but unfortunately erysipelas involving the tissues of the back set in, and the patient died exhausted four days after admission. The experience derived from the case led to the adoption, in all subsequent operations, of the rule to cut only where the hypodermic had first drawn pus.

7th. Lizzie M——, æt. 29. This patient was admitted with acute articular rheumatism, which was relieved by salicylic acid. Within a fortnight a complicating pleurisy developed in the left side, and caused so much pain and dyspnœa that it was necessary to aspirate, clear serum being on three occasions withdrawn. In three weeks the inflammation extended to the right pleura. Aspiration was again necessary, and both pleura were relieved—the left, of twenty-five ounces purulent fluid (not clear pus); the right, of eight ounces sero-sanguineous fluid. The next day twenty ounces were drawn from both sides. Two weeks later it was discovered, by the use of the hypodermic, that there existed in the left pleura *two* encysted collections of fluid, from the upper one of which the needle, introduced in the axilla, drew *clear serum*, and from the lower, *pus*. The lower one was emptied of twenty-eight ounces, and subsequently of sixty-three ounces and twenty ounces of pus, the collection in the upper sac remaining *in statu quo*. Meanwhile the pleurisy of the right side receded, and gave no further trouble. But the urine contained albumen and casts, and there was great anasarca of the extremities. Two and a half months after her admission, the patient submitted to the radical operation, and a large amount of pus was evacuated by a free incision into the lower encapsulation. A portion of rib necrosed, and some burrowing of pus ensued, so that it became necessary to make a counter-opening under the scapula. From this time the patient slowly but steadily improved, her temperature range gradually fell, and the œdema of the feet and legs disappeared.

She now walks about the ward and grounds. The sinus in the chest admits only a small tube, and discharges about half an ounce a day. The temperature ranges below 100°. There is no retraction of the side. The upper serous encapsulation has disappeared. A small piece of dead bone came out of the wound some time since.

8th. Richard B——, æt. 32. When admitted, the patient was suffering from alcoholic pneumonia. His temperature at the end of the disease did not drop suddenly, but gradually. He seemed, however, to be making a good convalescence till two weeks after admission, when his temperature suddenly shot up, and he began to complain again of pain in the affected side. Signs of fluid developed there, and turbid serum was drawn by the hypodermic two days later. Twelve days later still the patient seemed much worse; *pus* drawn. An attempted aspiration wounded the lung, causing hæmoptysis, but did no further harm. On the contrary, the patient began slowly to improve, although hectic and cough persisted. The signs of fluid diminished, leaving behind those of consolidation over most of the back. No fluid was ever drawn again, though the hypodermic was repeatedly introduced. Finally, the only signs remaining were those of thickened pleura. Five months after admission patient was discharged quite strong and well, but with a very perceptible retraction of the side.

9th. Mary J——, æt. 26. The patient stated that a month before admission she had a left pleurisy, with effusion, which, after two aspirations, became purulent. When admitted, she seemed in fairly good condition, without hectic, and eating well. She was aspirated, and about two pints of pus were withdrawn. It was decided best to make free incision at once, before her strength should be sapped by hectic. This was done a week after her admission. Two incisions were made, one in the fifth, the other in the seventh interspace, just anteriorly to the axillary line, and a drainage-tube was passed from one to the other, and the two protruding ends tied together. After the operation, the patient bled from the interior of the chest, *not* from the incisions. It was supposed that the hemorrhage came from some organized adhesions, ruptured by the passage of the drainage-tube. Tannic acid injected into the chest finally stopped the bleeding, but the patient was left pulseless, and vomited everything given her. The next day transfusion of blood was performed by Dr. Polk, and about one ounce of saline solution and three ounces of blood from a strong man were injected into her median basilic vein. Aveling's apparatus was employed, and gave poor satisfaction. Improvement followed, however, and she was able to take food. For some days clots of blood were washed out of the chest by the cleansing solution. Gradual recovery from the collapse followed. Her temperature curve, hectic. For about six weeks she held her own, but, though the chest was washed out sometimes thrice daily, hectic continued. She became emaciated, bed-sores formed, and she finally died of œdema of the sound lung.

10th. Christopher W——, æt. 50. Was admitted with subacute pleurisy on the left side. The effusion was shown by hypodermic to be serous. In the course of a few days it became purulent. On three or four occasions the chest was aspirated, and two or three pints of pus were drawn off each time. The empyema seemed to be encapsulated. Emaciation set in, and the temperature range ran high. The radical operation was proposed, and the patient consulted; but just then he began to feel better and his temperature to fall. Operative interference was delayed. He improved steadily, and in a month after admission no pus could be obtained from the chest, though the physical signs seemed to indicate either the presence of fluid or a very thick pleura. The patient left the hospital six weeks after admission, feeling well. He returned in a fortnight for examination, and all that could be found was an area of dulness, with absence of voice and respiratory murmur over the site of the empyema. He said he was perfectly well and able to work.

11th. Thos. B., æt. 50. The patient stated that he had had a cough for some years; yet he looked strong and healthy. About a week before admission he was exposed to cold, and had had pain in the left side and increase of cough ever since. Examination revealed a dry pleurisy on the left side, and a few râles over the lower part of the right lung. Two days after there was an effusion in the left pleura, which the hypodermic showed to be serous. Two days later still the patient began, all at once, to spit up great quantities of fetid material, and fetid pus was drawn from the left chest. Temperature range high. After aspiration of twelve ounces of pus, the signs of pneumothorax were obtained. So that it seemed certain that in some way perforation of the lung had occurred, and air had gained access to the pleuritic effusion, decomposition following; or the effusion had become gangrenous, and eroded the pulmonary pleura. The empyema was encapsulated. Patient was twice aspirated after this, and three weeks after admission an incision was made into the empyema, and drainage secured. The carbolized injection often set up a cough, during which some of it would be expectorated. Soon after the operation, phthisis, starting from the area of râles above mentioned, began rapidly to invade the right lung. The patient died two weeks after the chest had been opened. Phthisis was looked upon as the immediate cause of his death.

12th. Mary H., æt. 4½ years. The child's sickness began with restlessness, followed by cough, dyspnœa, and pain in the right side. The physical signs seemed, on the whole, to point to croupous pneumonia, though the percussion-note was absolutely *flat* over the lower half of the thorax behind. It was not until the fourth day after her admission that the physical signs unmistakably denoted fluid, which was drawn by the hypodermic, and shown to be thick with pus. Temperature high. The patient was aspirated on the seventh day of her illness, and twelve ounces of creamy pus removed. She suffered much from shock, but recovered in five or six hours. The hole made by the aspirator-needle allowed some of the pus to escape into the tissues of the back, and, as the mother refused to allow any further operation, it burrowed. The child passed into stupor on the sixteenth day of her disease. An incision was made then, the mother consenting when hope was gone, but the patient survived only a few moments. No autopsy.

It is interesting to observe that most (all but four, certainly) of these cases began as pleurisy with serous effusion, and that in two, at least, the empyema was a sequel of croupous pneumonia. In half the cases the whole pleural cavity was involved; in half the empyema was encapsulated. Seven cases died, all of whom had been cut; but in two (6, 11) death was due to complications, while in two others (4 and 5) the empyema was a concomitant of conditions already fatal in their tendencies. So that in only three cases (2, 9, 12) can death be attributed to empyema alone. Five cases recovered; two (8 and 10) *without* operation, the pus having been absorbed, or having undergone calcareous or other changes. In the one case (8) retraction of the side remained; in the other (10) none. Of the three others who got well after operation, one (7) recovered with only a sinus; one (3) with a sinus and retraction of the side, and one (1) with sinus, retraction, and probably waxy liver and kidneys.

In considering these results we are not led to regard incision for empyema as one of the triumphs of surgery. Leaving out those fatal cases in which empyema was complicated with phthisis, erysipelas, etc. (4, 5, 6, 11), three remain (2, 9, 12) whose lives the operation failed to save (though one—12—was in *articulo mortis* when it was done). In Case 9 the operation seemed to have hastened the patient's death. Of those who recovered (1, 3, 7) after operation, all have sinuses, and two are deformed.

Perhaps it is not unfair to hope that the results might have been better had the patients not been operated on in a large public hospital, where the food is poor, and where nosocomial malaria abounds.

Progress of Medical Science.

THE PATHOLOGICAL HISTOLOGY OF ACUTE PAROTITIS.—Dr. Wendt, of New York, has published a contribution to the minute anatomy of this disease, based upon the study of an inflamed gland. He found that the morbid process passed through several stages, with the ultimate possibility of complete restoration of the gland to its normal condition. The first stage of the disease was one of congestive hyperæmia, the arterioles and capillaries being packed with blood-elements. Then came a stage of exudation, accompanied with the emigration of many leucocytes. Rupture of capillaries occurred simultaneously with this action. Then followed a period of epithelial hypertrophy and hyperplasia, caused, according to the author, by the stimulus of excessive blood-supply to its secreting acini. Soon, however, the epithelial cells underwent cloudy swelling, and then fatty degeneration. The products of this process accumulated in the meshes of the interstitial connective tissue. Active proliferation of the secreting cells went on simultaneously with these morbid changes. For this reason the writer expresses his belief in the power of complete glandular restoration. The question whether the disease was a case of mumps, or an instance of so-called secondary parotitis was left undecided.—*The New York Med. Journal*, September, 1880.

THE LOW ORGANISMS OF INDURATED CHANCRE.—The researches of Prof. Klebs with regard to indurated chancre failed to bring to light the presence of foreign organisms in addition to certain histological changes which are characteristic elements of the lesion. Pisarewski recently undertook the renewed investigation of this matter. At the instance of Prof. Grube, of Charkow, he examined four specific sores immediately after their excision. The specimens were hardened in Müller's fluid and alcohol. The characteristic leucocyte infiltration of the connective tissue was found in all the specimens. The newly formed blood-vessels of the syphilitic induration were remarkable for the thickness of their walls. But Pisarewski found in addition to these changes a new feature of the lesion. The entire indurated nodule appeared to be traversed by numerous canals and cavities, the former, as a rule, pursuing their course in the direction of the blood-vessels. These canals, however, exceeded the blood-vessels in the size of their lamina. They lacked separate walls, but showed an endothelial lining. For this reason the author regarded them as lymphatic channels. Some were found to be empty, others contained lymphoid corpuscles, and still others were filled with a peculiar, finely granular substance. The latter consisted of round granules, imbedded in a transparent, homogeneous connective matter. Great uniformity of size and shape was noted in connection with these granules. They were found grouped together in nests, and received interpretation as low organisms called zoöglœa. The action of coloring matters and chemical agents upon these bodies justified this interpretation. They remained unchanged after boiling in equal parts of alcohol and ether; glacial acetic acid, or caustic potash solution had no effect on their appearance beyond rendering them more conspicuous in the changed surrounding tissues. Different other reactions all pointed to the vegetable nature of these low organisms.—*Centralbl. für Chir.*, Aug. 7, 1880.

A Positive Sign of Pregnancy during the First Three Months.—In a paper read before the Detroit Academy of Medicine, Dr. J. H. Carstens mentioned a positive sign of pregnancy on which he had always relied, and which had never failed in his experience to enable him to diagnosticate this condition. He had been under the impression that it was a new, not hitherto described sign; but, looking over the literature of the subject, he found that it had been mentioned years ago by Jacquemier and others. It seemed, however, to have fallen into oblivion, and was not mentioned in the ordinary text-books. He referred to the color of the mucous membrane of the vagina and cervix uteri. This he always found of a purplish blue, or rather deep violet hue, in pregnant women, and he depended on this peculiar color in making a diagnosis of pregnancy in the first, second, and third months. He said that it had never failed, and that it was not produced by any pathological condition. The different colors produced by uterine diseases could not be mistaken for this pathognomonic violet hue. He had often called the attention of students to this sign. It had been claimed by some that this color of the mucous membrane was found in various pathological states. He claimed that the discoloration in such cases was different from that found during pregnancy. It was more blue and scarlet, mixed or mottled, nor was the peculiar soft, velvety condition of the membrane present. He simply called it violet, and said that it must be seen, and then would never be forgotten. It was probably caused by engorgement of the veins. All he asked was that this sign be again looked for and submitted to a rigid investigation, and he was sure the verdict would be that it was the only sure sign we had at present to diagnosticate pregnancy from the first few weeks up to the fourth month.—*The Detroit Lancet*, September, 1880.

Rupture of Axillary Artery during Reduction of Luxation of the Humerus—Diffuse Traumatic Aneurism—Amputation at Shoulder-Joint—Death.—Rupture of the axillary artery, associated with simple dislocation of the humerus, or occurring during the reduction, is an extremely serious accident, though, happily, rare. Mr. Bellamy, of Charing Cross Hospital, reports a case in the *London Lancet*, August 14, 1880, where, if the statement of the patient may be trusted, the rupture of the axillary artery occurred during the reduction. Unfortunately, the mode of reduction is not stated. Patient, male, æt. 55, gave the following history previous to admission to the Charing Cross: "Dislocated his right humerus on December 19, 1879, and the following month the house surgeon of a large metropolitan hospital attempted reduction under an anæsthetic, but failed. In the next attempt the patient stated that he immediately became aware of a swelling in the armpit. A fortnight after this he was discharged. He had lost sensation since the time of the last attempt. Three weeks after he left the hospital a little bright blood oozed through the skin, and on July 30th he had more severe hemorrhage, losing about four ounces of arterial blood, and then the bleeding ceased." Upon examination, a tumor was found situated in the region of the right shoulder; the walls were very tense and pulsating; the clavicle was distinct and not involved. The pulsation was best felt at the posterior part of the axilla. The arm below was much swollen and waxy; no pulse could be felt at the wrist. At the lower part of the tumor, in the axilla, the skin was dark and sloughy, from which flowed a watery discharge. The tumor was not distinctly circumscribed at its lower margin, and was about as large as a man's head. Patient was anxious in appearance, and had been rapidly losing health since the appearance of the tumor. He had had no attacks of syncope or breathlessness, and the face was not markedly blanched. Pulse 96, respiration 18. Conjunctiva and mucous membrane pale and anæmic. Had slight cough and watery expectoration. In consultation it was determined to amputate through the shoulder-joint. This was done by commencing with an anterior flap from without, and *not* transfixion. Although the subclavian artery was most efficiently compressed, the hemorrhage on the first sweep of the knife was terrific, the blood coming from the tense sac and from the enlarged vessels behind and below. The second or posterior flap was cut after disarticulation, in a few seconds, and some pounds of clot and organized lymph were removed. The main trunk, as far as its topographical position should have been, was not recognizable. There was a hard, cartilaginous-like tube on the wall of the thorax, throwing a fearful jet of blood, and which, notwithstanding the pressure on the subclavian artery, was secured after great difficulty. After all bleeding-points had been secured, the flaps were adjusted and the patient removed to bed. Unfortunately, he never rallied, and about an hour afterward died. Most of the cases of rupture of the axillary artery during the attempts at reduction have been in dislocation of some weeks' duration. Indeed, it is probable that the rupture of the artery is due to laceration of the adhesions formed around the displaced bone in the neighborhood of the vessels. In the case just quoted no attempt at reduction seems to have been made for at least six weeks. In that time firm adhesions had doubtless formed. In one case in which dislocation of the humerus was complicated by diffuse traumatic axillary aneurism, Mr. R. Adams, of Charing Cross Hospital, reduced the dislocation, and then ligatured the subclavian artery, and the patient recovered.

A Case of Quassia-Poisoning.—Mr. D. T. Reckitt, of the Newark Hospital, England, reports in the *London Lancet*, August 14, 1880, a case of poisoning by the concentrated infusion of quassia, which was given by mistake for the simple infusion. Patient, girl aged four years; had for several weeks suffered from prolapsus recti after action of the bowels. She had very frequent desire to go to stool, and remained sometimes half an hour on the seat, straining violently. Suspecting that ascarides were the cause of the prolapsus, the nurse was ordered at 1.30 P.M. to give an injection of six ounces of simple infusion of quassia. With the exception of a tablespoonful, all the injection was retained, and the child taken away. At 3 P.M. the mother returned, saying that the child was only just alive; that in taking it from the hospital it reeled very much, as if tipsy, and that she was obliged to carry it to a temporary lodging. Mr. Reckitt visited it at once, and found it in an alarming condition. It was ghastly pale, the lips were bloodless, the head thrown back, the surface cold, eyes closed and pupils contracted, with no action to light; respiration inaudible, and the pulse not to be felt. It was quite unconscious. The feet were placed in very hot water, which immediately roused the child with a violent scream. Some strong brandy and water was given, and swallowed with difficulty; but the pulse returned. The child was kept roused by having the feet placed occasionally in hot water and mustard cataplasms applied to both calves. There seemed to be a strong desire to sleep, when the pulse became much slower and more feeble; so the feet were again put into hot water, and small, but strong doses of brandy were given internally. After an hour and a half the child vomited once, and then seemed a little better, but continued unconscious. Half a drachm of ether, one drachm of compound spirits of ammonia, and half an ounce of brandy, diluted with warm water, were injected into the rectum, and retained by means of the finger applied to the anus. This acted most favorably, for the color returned to the lips and face, the surface became warm, and the breathing and the pulse more natural. During all this time, except when allowed to sleep, it moaned very much. The color, respiration, and pulse being much improved, the child was allowed to sleep. At 6 P.M. the child was aroused, and a little brandy was given. At 6.30 P.M. it was conscious, and looked quite well, though sleepy. Some cold milk was ordered. The quassia injection did not act as a purgative, the bowels not having been moved since its visit to the hospital.

Spontaneous Gangrene due to Thrombosis of Popliteal Arteries—the Result, probably, of Malaria.—Spontaneous gangrene is sufficiently rare, especially in a young child, to deserve a record. The extensive character of the mortification and its somewhat protracted course also add to the interest of a case reported by Dr. J. H. Pooley, of Columbus, Ohio, in the August number of the *Virginia Medical Monthly*. The gangrene was due to thrombosis of the popliteal arteries, the result, probably, of malaria. Patient, female, æt. seven years; had always been well and hearty. On December 5, 1879, she was taken with a chill, followed by fever and headache, which subsided after a short time. During the succeeding three or four days she had chills or chilly sensations at irregular intervals, and more or less continuous fever. She complained of headache, swelling and stiffness of the knee, inability to go up and down stairs, followed by a sense of tingling, and later by decided pain in the legs. Just one week from her first chill, a discoloration made its appearance on the dorsum of each foot, and extended up and around the legs as far as the knee on the right side; on the left, to some distance above the joint. The color, at first a purple mottling, soon became uniform, and exactly resembled the hue of a negro's skin. Her condition two weeks from the beginning of the attack was as follows: pulse, 130, feeble and irregular; temperature, 104°; respirations, 50; complained of severe shooting pains in the legs, and pain in the back. Both legs discolored and of icy coldness; toes of both feet dry, hard, shrivelled, and immovable, and entirely devoid of sensation. There was mobility at the ankle-joints, and the sensation was only partially abolished from the ankles to the knees. Under a tonic course of iron, quinine, whiskey, eggs, milk, cream, and a plentiful supply of lemons, her general condition improved very much. When Dr. Pooley saw the patient in consultation, January 1, 1880, there was a perceptible failure of the vital powers. Temperature, 105°; pulse, 130; respirations, 30 per minute. No lesions of either heart or lungs. Never had rheumatism—indeed, nothing except mild attacks of ague—the whole region in which she lived being decidedly malarious. On examining the limbs, Dr. Pooley found the gangrene had extended above the knee on both sides, a little higher on the left than on the right. The toes were quite black, and dry, and hard; above the feet the color was that of a negro, which, at this age and in these parts, is not quite black. Over most of the surface the skin was soft and supple; there were, however, large patches where it had undergone parchment induration. At the upper limit of the mortification there was, on both sides, an irregular, shallow gutter of demarcation filled with stinking ichor, but no inflammatory redness or swelling above it. Her condition gradually grew worse, and she died six weeks from the date of the initial chill.

Autopsy.—Examination of the limbs only was permitted. Sloughing at the line of demarcation had become quite extensive, almost entirely encircling both thighs, with large collections of pus in the popliteal spaces, the arteries alone resisting the general destruction. The dissection was begun in the upper third of the thighs, tracing the arteries until they divided into the peroneal and posterior tibial. An occlusion by a firm thrombus was found in each popliteal, including all that portion between the superior and inferior articular arteries. The cord-like feeling of the vessel extended farther up in the left leg than in the right. The arteries below the point indicated were empty. The integument of the legs was universally hard and brawny; the muscles were in a state of perfect preservation, and of a red color—a remarkable circumstance, when we take into consideration the fact that no blood, or, at least, very little, could have reached the parts for five weeks.

Cæsarean Section on a Dwarf.—The operation of Cæsarean section was successfully performed upon a dwarf, Mrs. Wm. Burnell, in Philadelphia, recently. The infant was doing well, and the mother was in a fair way to recover at last accounts. The dwarf is thirty-two years old, and forty-two inches high. Her father was a dwarf, about the same size as herself, while her mother, who died when she was a baby, was a woman of ordinary size. About nine months ago she married William Burnell, a negro minstrel, then connected with the same show. Mr. Burnell is not a dwarf, but a full-grown man. Such marriages are unequal to the last degree, and ought not to be allowed in civilized and presumably intelligent communities.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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THE MEDICAL REGISTRATION LAW.

We are hardly surprised to learn that quite a number of physicians practising in this state are still unregistered. That this is due in the main to negligence, or to a failure to understand the true import of the law, is hardly to be doubted. That neither of these excuses will avail anything will be quite apparent in case of complaint made against any unregistered physician. While the larger number of medical men who have failed to comply with the provisions of the law may be looked upon as passive opposers of the latter, there are not a few who are willing, on one plea or other, to interfere with its enforcement by refusing to register. There are always martyrs to every good cause, and it will do no harm to kindle some fires which may serve to light up the darker places in the minds of others. As we have remarked on a previous occasion, the law regulating the licensing of practising physicians in this state is singularly free from even technical errors. All the objections to its enforcement were carefully considered beforehand, and every possible provision made against dodging any portion of its letter or spirit. As it stands at present, it is the most perfect one of its sort, consistent, legal, and practicable, and not to be trifled with on any mistaken idea of its constitutionality, or any plea that its penalties are not explicit, or that they cannot be legally enforced. The only serious question of constitutionality of the law is that which provides for the endorsement of diplomas from without the state before the new citizen can be allowed to practise in this Commonwealth. It must be remembered that each state has a constitutional right to make laws for its own protection, and in order to do so it has also the right to insist upon the necessary guarantees from such as may be subject to their provisions. From such a standpoint, the state, for instance, has just as much right to insist that a diploma from outside should be countersigned, as that the health officer of the port has a right to refuse entrance into our port to any one not having a clean bill of health. Each state is competent to make its own laws for regulating the practice of medicine, and if it chooses, it can insist upon having the said laws enforced. In cases of difference of opinion regarding the constitutional right so to do, the safety of the state can be very easily offset against the claims of any individual not complying with the laws of said state. Laws founded upon similar principles are in force in other states, and are duly respected. Why any exception should be made in this respect regarding the registry law, it is not easy to see. In any event it will be safe to assume that if the present law is unconstitutional it will be useless to regulate the practice of medicine by any practicable law whatsoever, and impossible to prevent any quack, foreign or domestic, from practising in any portion of the Union in which he may prefer to reside.

The countersigning of diplomas that are granted outside the state does not appear to be very well understood; at least we should so judge from the fact that some gentlemen who have been practising here for the past ten years have actually taken their diplomas of neighboring states to the college, and paid the fee for endorsement of the same before they believed themselves entitled to register.

The truth is, that every medical man who came into the state before the first of October, with a diploma from outside the state, was, up to that time, "lawfully engaged in the practice of physic," and as such the law merely requires that he shall register. If he comes into the state after that time, his diploma must be duly approved, as aforesaid, before he can be licensed.

Another objection to the practical working of this law has been urged with a very amusing show of stupidity. One of the leading dailies very gravely suggests that now that the first of October is passed, there is no section in the law which provides for the registration of such physicians as are now practising and who have not yet complied with the law. The possibility of such a proposition having any foundation in fact, is an absurdity on its face. The law explicitly says that all lawfully engaged in the practice of medicine shall register, in accordance with the provisions already stated, before October 1st. Up to that time they could practise medicine as unregistered physicians without incurring a penalty. After that time they are practising medicine illegally, and are liable, on complaint, for so doing, to the specified fines. A physician who delays does so at his peril, and renders himself liable for a fine for every patient he may see. The object of fixing the 1st of October as the day was evidently to mark a convenient period of time when the law should go in force with all its privileges and penalties. Simply his and nothing more. It would be preposterous to uppose that any law could be enacted, with penalties o be enforced, and yet no opportunities be afforded o escape from said penalties.

As can be seen very plainly, there is no provision gainst registering at any time, but much the safer and etter way would have been to have done so before the ime expired, and when delinquents were not liable to enalties. In other words, no practising physician vho is not at present registered is safe from the viles of any informer who may desire to obtain half he fine inflicted.

In conclusion, we say that if there is to be any pen opposition to the present law, it should, least f all, come from members of the medical profession. The latter owe it to themselves, individually nd collectively, to make it a practical success, as far s such can be possible. To this end it is perhaps etter to give the benefit of the doubt to such as ppose this law on what they call a principle; and even if the present law is not as perfect as it might e, to show a disposition to obey it in letter and spirit ntil we can obtain a better one. The quacks are vatching the solution of the problem with interest, nd their fraternity is safe from prosecution so long s legally qualified practitioners remain unregistered, nd by such means openly defy the law.

THE CLAIMS OF COMPARATIVE MEDICINE.

To young men, ambitious of earning their living in scientific pursuits, the facts given elsewhere concerning the condition of comparative medicine should be read with attention. We are told by Prof. Bates that here is one branch of science which offers a rich field for study, and, furthermore, that it is sure to bring substantial pecuniary rewards in a short time. There is, he says, a deplorable lack both of knowledge and skill in most of those who now practise among animals, and the opportunities for helping the removal of such deficiencies are very great. There are now not enough educated veterinary surgeons to furnish the cities of this country with one apiece. There is a constant demand upon the veterinary colleges of this city for skilful practitioners, and those who have been sent out thus far have at once stepped into very lucrative practices.

Veterinary science is one which has been growing rapidly within the past few years. There are two colleges, both in this city, which have done excellent work in educating young men in comparative medicine. They have already secured for themselves a good reputation, and appear to have ample facilities for maintaining it. There are also three veterinary journals, all published in this city, which give evidence that there is much scientific ability as well as professional enthusiasm among those following veterinary practice. It seems to be the aim, and it is a laudable one, of the teachers of this branch of medicine, to make the education of their pupils broad and comprehensive. It is desired to have the graduate not alone a horse-doctor or a cow-doctor, but a man qualified to give medical advice upon the diseases of all domestic animals; to make him, in fact, a doctor of comparative medicine. Such an ambition is to be commended, not only because it will enlarge the scientific knowledge, and elevate the status of the veterinary practitioner, but because it answers a practical need. Of the two billions of dollars which the domestic animals of this country represent, only three-fourths is in horses. The amount of money annually lost by a single disease affecting hogs, is estimated at $20,000,000. Pleuro-pneumonia also causes great losses among cattle, and it is asserted that if the disease should get among the herds of the west, the price of beef in the east would go up to five or even twenty times its present amount.

Obviously it is worth while, therefore, both to the state and to large stock-owners, that there should be men acquainted with these diseases and competent to advise regarding them.

It is not without reason that there has been little reputation in the past associates with the title of "horse doctor." If, however, those who assume this title hereafter show themselves educated, intelligent, and useful practitioners, the reproach will soon disappear. We commend the subject to the attention of the large numbers of young men who are now proposing to enter an overcrowded profession where success is slow and the final compensation not always great.

The results to the human race from a better knowledge of the diseases, such as tuberculosis, which affect domestic animals, are matters on which we need not dwell. It would be in the interests, however, of the more purely scientific branches of medicine, physiology, and pathology, for example, that there should be a more active study of comparative medicine.

THE STATE BOARD OF HEALTH.

The necessity for the creation of a state board of health for New York has been urged so strongly in these columns that we notice with no small satisfaction the promising outlook of the usefulness of the organization. At its recent meeting the real beginning for sanitary reform was made by ordering reports to be prepared for public circulation on certain important sanitary subjects, among which were the pollution of wells and general house-sewage, drainage of towns and villages, danger of kerosene, school hygiene, the prevention of small-pox and diphtheria. Although with full power to make such regulations for abating such nuisances, and for enforcing such sanitary regulations as may seem necessary in the different towns and villages throughout the state, the board wisely prefers as much as possible to act in the advisory capacity. In this respect it is taking the good example of the National Health Board, of which latter body it is the legitimate offspring. The history of true sanitary reform brings out the patent fact that at the bottom of it all is the education of the people and the creation of an intelligent public sentiment in favor of enforcing sanitary laws. Once convince the people that certain things are necessary to their safety—point out the dangers to which they may be subjected by a neglect to comply with certain well-established hygienic laws, and the proper foundations are laid for the enforcement of any regulation which may be deemed necessary. It is this course which must stimulate wise legislation in health matters and which must tend to the creation of laws which, while aiming to protect the community, do not arouse the antagonism of the individual.

It is quite important, in more ways than one, that the state board should vindicate the right of its creation by a liberal and consistent course. Not only is there an immense amount of work to be done in its own particular sphere, but upon it devolves a responsibility of proving the practical working of a law which may be taken as a model for any state in the Union. In no other state is a wider field for intelligent direction on sanitary matters. Not only is New York the most densely populated state in the Union, but it is, by the nature of its surroundings, its extensive and varied trade, its large cities, its aggregation of towns, its water-supplies and the like, peculiarly exposed to unsanitary influences. It is perhaps safe to say that the board fully appreciates this fact and is prepared to act accordingly.

So much, then, for the general purposes of the board, as foreshadowed in the determination to educate the people on sanitary matters. The selection of subjects has been wise. In many of our large towns the privy-vault and water-supply are necessarily but a few feet from each other in a narrow lot. In connection with sewage the drainage of towns and villages can be very properly treated. Concerning offensive trades no better illustration than that afforded at our own Hunter's Point can be selected. The proper means to be adopted to abate this and similar nuisances will doubtless engage the attention of the board. The remedying of the nuisance comes within the pale of its jurisdiction. The prevention of accidents from kerosene is hardly possible, in view of the stupid recklessness of the average servant, but it is clearly within the province of the board to do all it can not only to prevent the sale of impure oil, but to guard against accidents in such as are determined to use it. Diphtheria, ventilation, school hygiene and small-pox are also themes which can be treated in a way to do an immense amount of good and save numerous valuable lives. While awaiting the appearance of the tracts we bespeak for the coming efforts of the board the endorsement of the profession and the appreciation of the public.

THE MALARIAL MANIA.

A correspondent calls attention to the prevalence of what he terms malarial mania among medical men. In many respects we agree with him that it is getting to be too much the fashion to refer everything to malarial infection. There is no doubt that there is a great deal of malarial poisoning to be found throughout the country, but that the numbers affected are greatly overestimated does not admit of a doubt. The frequency with which the diagnosis of malarial element, in almost all diseases, is made by some practitioners, is being noticed by the public, and is not unfrequently an object of ridicule. The knowing patient in a malarious district does not really need to seek the advice of his physician, but can take his quinine by wholesale, and buy it in quantity as he would an article of diet. It would seem that practice of medicine is by many being narrowed down to one diagnosis and one system of therapeutics.

THE AMERICAN ACADEMY OF MEDICINE.

The fifth annual meeting of the American Academy of Medicine was recently held in Newport, R. I. It is gratifying to learn that the organization is in a prosperous condition, and that its aims are being fostered by a goodly share of the representative men in the profession. Established for the purpose of furthering the interests of a higher medical culture, it remains true to itself in keeping the idea constantly before the profession and the public. Dr. Lente, in his annual address, tells us the old story of lack of preliminary requirements on the part of students of medicine, of colleges that admit any and every one able to pay the fees, and of the lamentable deficiencies of medical graduates of to-day compared with those of one hundred years ago. But the old story needs to be told again and again, until the majority of the profession shall believe it to be true, and shall take the necessary steps for reform. The American Academy of Medicine is doing a good work in this direction. It has shown its determination to keep its own standard of qualifications intact, to insist that no one shall be a member unless he shall have enjoyed the advantage of a university training, aside from that in medicine, and consequently it can afford to insist upon equal qualifications in others. Its province as an organization is to show the advantages of higher medical education, and to encourage the rising generation of physicians to fit themselves thoroughly for the practice of their calling—to claim for such a position equal to that of the educated lawyer or clergyman. Such reforms must of necessity be made slowly, but the Academy is taking the right course to accomplish them. It is, after all, the general practitioner and the educated public which must work out the problem, and be educated to the point of demanding a higher grade of matriculants for our medical colleges, and higher qualifications for graduation. The colleges will never take hold of this question, and give it the necessary practical turn, until compelled to do so by a properly educated public opinion. The Academy, as before said, is doing a good work in this direction, and it is still encouraged to go on. The best indications of its successful working are its steadily increasing membership and the growing interest felt in the purposes of its annual meetings.

THE INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

The appearance of the first volume of the index catalogue of the National Library is an event in the history of medical literature in this country which will be hailed with satisfaction by the medical scholars throughout the world. Not only does it open for practical use the vast stores of the library at Washington, but, judging from the present volume, it is calculated to give as complete a line of reference to authors and subjects as can be collected anywhere. As an indication of what the succeeding volumes may contain, we mention that the one before us represents 9,090 author-titles, 8,031 volumes, 6,398 pamphlets, 9,000 subject-titles of separate books and pamphlets, and 34,604 titles of articles in periodicals. The arrangement of subjects is as perfect as can be made to allow of easy and intelligible reference, and too much praise cannot be given for the care and discrimination which has been exercised by Surgeon John S. Billings in bringing about this result. Some time since, with a view of obtaining the opinion of experts throughout the country, Dr. Billings published specimen fasciculi, embodying different methods of indexing, and asked for suggestions tending to improve such methods.

The present plan is the result of the embodiment of the views of the majority, and is, as might have been expected, the most perfect that could have been obtained. The typographical arrangement is excellent, and the variety of type helps to subdivide the subjects for easy and rapid reference. The volume, notwithstanding its bulk—nearly 900 pages—comprises only indices from A—Berlinski. It will be at once assumed that it is impossible to give more than a general idea of the character of the work and of its arrangement, as any attempt to do more would involve something like a detailed review of a dictionary.

It is well known that the authorization by Congress for the publication of this volume was the result of much entreaty on the part of the profession through its press and its medical organizations. That the publication has become an accomplished fact is as creditable to the government as it is beneficial to the profession. If there have been any doubts as to the real utility of the project, the present volume must effectually dispel them, and prove to all directly or indirectly interested that for no more worthy object could Congress have made the appropriation.

Reports of Societies.

THE AMERICAN PHARMACEUTICAL ASSOCIATION.

Twenty-eighth Annual Meeting.

Held in Saratoga, N. Y., September 14th, 15th, 16th, and 17th, 1880.

Tuesday, September 14th—First Day.

The Association met in the concert-room of Congress Hall, and was called to order at 4 p.m. by the President, George W. Sloan, of Indianapolis, Ind.

Chas. F. Fish, of Saratoga Springs, Local Secretary and Chairman of the Local Committee, was then introduced. He delivered the address of welcome, in which he gave a brief historic sketch of Saratoga and its surroundings, and directed special attention to the fact that it was Dr. Stearns, of that county, who in 1809 first brought to the notice of the medical profession the therapeutical use of *ergot.*

President Sloan, in behalf of the Association, returned to Mr. Fish sincere thanks for the cordial welcome.

The President then appointed the following as Committee on Credentials: F. T. Whiting, of Great Barrington, Mass.; E. B. Gordon, of Cincinnati, O.; and G. J. Luhn, of Charleston, S. C.

THE PRESIDENT'S ANNUAL ADDRESS.

The President then delivered the annual address, in which he referred to important changes in the rules of the Association, and the general progress made in pharmaceutical science, and then discussed at some length the topic suggested by a paper read by James G. Steele, on "The Medicinal Plants of California," read at the last meeting of the Association. He considered the effect produced on native medicinal plants by the destruction of our forests, and asked: Can they be successfully and profitably cultivated, and will the cultivated possess the therapeutic virtues of the natural plants? At present these questions cannot be satisfactorily answered, but they are of sufficient importance to demand the earnest attention of pharmacists.

E. Scheffer, of Louisville, Ky.; John Ingalls, of Macon, Ga.; and A. Robbins, of Philadelphia, Pa., were appointed as a committee to whom was referred the President's address.

On motion by H. J. Menninger, the members of the medical and the pharmaceutical professions, residents of Saratoga, were invited to the privileges of the floor.

On motion, the same courtesy was also extended to the Committee on Revision of the National Pharmacopœia, then in session in Saratoga.

The Executive Committee then read the names of 141 applicants for membership in the Association [they were elected at the next session].

The Secretary then called the roll of members, when eighty-six were found to be present.

The Committee on Credentials then presented their report through F. T. Whiting, Chairman, which was accepted and the delegates admitted.

The following gentlemen were then selected as members of the

COMMITTEE ON NOMINATIONS,

one representative being named by each delegation:

New York Coll. of Pharm., H. J. Menninger; National Coll. of Pharm., Chas. Becker; Chicago Coll. of Pharm., Thomas Whitfield; Mass. Coll. of Pharm., B. F. Stacy; St. Louis Coll. of Pharm., O. A. Wall; Cincinnati Coll. of Pharm., W. J. M. Gordon; Philadelphia Coll. of Pharm., A. Robbins; Pittsburgh Coll. of Pharm., F. W. Walker; Montreal Coll. of Pharm., H. S. Evans; Ontario Coll. of Pharm., W. Saunders; Louisville Coll. of Pharm., E. Scheffer; Maryland Coll. of Pharm., J. Roberts; Alumni Assoc. of Mass. Coll. of Pharm., Wm. W. Bartlett; Alumni Assoc. of New York Coll. of Pharm., S. H. Ambler; Alumni Assoc. of St. Louis College of Pharm., O. A. Wall; Alumni Assoc. of Louisville Coll. of Pharm., O. Beckman; Alumni Assoc. of Philadelphia Coll. of Pharm., E. M. Hatton; Alumni Assoc. of Cincinnati Coll. of Pharm., H. Serodina; Wisconsin Pharm. Assoc., J. A. Dadd; New Hampshire Pharm. Assoc., C. A. Tufts; North Carolina Pharm. Assoc., W. Simpson; Connecticut Pharm. Assoc., A. F. Wood; Kings County Pharm. Assoc., W. P. De Forest; South Carolina Pharm. Assoc., G. J. Luhn; Vermont Pharm. Assoc., A. W. Higgins; Iowa State Pharm. Assoc., Geo. H. Schaefer; New Jersey Pharm. Assoc., G. H. White; Newark Pharm. Assoc., Chas. Holzhauer; Pennsylvania Pharm. Assoc., J. H. Stein; New York Pharm. Assoc., L. E. Nicot; Kansas Pharm. Assoc., G. H. Ferdinand; Ohio Pharm. Assoc., T. J. Casper; Georgia Pharm. Assoc., John Ingalls; Kentucky Pharm. Assoc., J. F. McKinnie; Pharm. Assoc. of the Province of Quebec, R. McLeod; Literary and Scientific Society of the German Apothecaries of the City of New York, P. F. Lehlbach.

The President appointed from the Association at large, in addition to the above, J. G. Thibodeaux, of La.; W. B. Blanding, R. I.; Wm. J. Morley, Texas; E. Martin, Ind.; E. Bocking, W. Va.

The President also announced the following as the Committee on Exhibitions: C. H. Dalrymple, N. J.; C. Huston, O.; Wm. Blaikie, N. Y.; P. C. Candidus, Ala.; and G. H. Schaefer, Iowa.

The Business Committee then called up the report of the Committee on By-laws relating to Business Council, and it was read by J. P. Remington, of Philadelphia.

On motion, the report was made the special order for Wednesday morning, immediately after the completion of the regular order of business.

WEDNESDAY, SEPT. 15TH.—SECOND DAY.

The Association was called to order at 9.45 A.M. by the President.

The minutes of the previous session were read by the permanent Secretary, John M. Maisch, of Philadelphia, and adopted.

REPORT OF THE COMMITTEE ON NOMINATIONS.

The Committee on Nominations, Charles A. Tufts, Chairman, presented the following nominations for officers and committees for the ensuing year:

For *President*, James Thornton Shinn, of Philadelphia, Pa.; for *1st Vice-President*, Geo. H. Schaefe of Ft. Madison, Iowa; for *2d Vice-President*, Wm. F Thompson, of Washington, D. C.; for *3d Vice President*, Wm. Simpson, of Raleigh, N. C.; fo *Treasurer*, Charles A. Tufts, of Dover, N. H.; fo *Permanent Secretary*, John M. Maisch, of Philadelphia, Pa.; for *Reporter on Progress of Pharmacy* C. Lewis Diehl, of Louisville, Ky.

Executive Committee.—Geo. W. Kennedy (Chairman), Pottsville, Pa.; Adolph W. Miller, Philadelphia Pa.; Charles Huston, Columbus, O.; Thomas Doliber, Boston, Mass.; John M. Maisch, ex-officio.

Committee on Drug Market.—Louis Lehn (Chairman), of New York; James F. Steele, of San Francisco; Isaac L. Lyons, of New Orleans; Thoma Whitfield, of Chicago; John P. Muth, of Baltimore.

Committee on Papers and Queries.—J. U. Lloy (Chairman), Cincinnati, O.; Starr H. Ambler, of Ne York; Wm. W. Bartlett, of Boston.

Business Committee.—H. J. Menninger (Chairman) of Brooklyn, N. Y.; Charles L. Eberle, of Philadelphia, Pa.; Ed. H. Heinitsch, of Columbia, S. C.

Committee on Prize Essays.—C. Lewis Diehl (Chairman), of Louisville, Ky.; John F. Judge, of Cincinnati, O.; E. Scheffer, of Louisville, Ky.

Committee on Legislation.—John M. Maisch (Chairman), of Philadelphia, Pa.; Jesse W. Rankin, o Atlanta, Ga.; Samuel A. D. Sheppard, of Boston Mass.

On motion by P. W. Bedford, of New York, th report was accepted and the Association proceede to ballot for President; C. S. Eastman, of Concord N. H., and Jos. Roberts, of Baltimore, Md., acting as Tellers. James Thornton Shinn was unanimousl elected. The Secretary was then instucted by th Association to cast an affirmative ballot for the remaining gentlemen put in nomination, and they wer declared elected.

The Chairman of the Executive Committee calle the attention of the Association to the Centennia Fund, and moved the appointment of a committe to solicit subscriptions. C. L. Eberle, of Philadelphia, Pa.; C. Lewis Diehl, of Louisville, Ky., and A. E. Ebert, of Chicago, were appointed, and th Committee subsequently reported that $120 had been raised.

The Chairman of the Executive Committee, GEO. W. KENNEDY, then read the annual report of th Committee, which was accepted.

The report showed that the total membership a the close of the last annual meeting was 1,208. Since that date there had been a total loss of 58 members, leaving 1,150 in good standing. Of the 58 member lost, 12 active and 3 honorary members have died. To those three other names were added, making the total number of deaths 18 during the year.

Obituary sketches were read of A. E. Dunk, Erie, Pa.; Michael H. Gleason, Boston; Samuel K. Gilman, Boston; Jas. W. Rideout, Brooklyn; John J. Cross, Louisville; Geo. J. McKay, Cal.; J. W. Haddox, Nashville; Jas. A. Gleeson, Boston; Chas. F. Mohr, Bonn; Prof. Chevalier, Paris; and —— Wiggers. The names added to the list were Wm. Neergaard, of New York; W. S. Merrill, of Cincinnati; and Thomas Lewis, of Brooklyn.

The report of the Permanent Secretary was then read and accepted.

The Treasurer, CHARLES A. TUFTS, of Dover, N. H., then read his report, which showed that there was a balance in the treasury, not including the receipts of the present session, of $1,461.61.

The report was accepted, and referred to an auditing committee, consisting of W. J. M. Gordon, of Cincinnati; C. H. Dalrymple, of Morristown, N. J.; and Geo. W. Sloan, of Indianapolis.

C. LEWIS DIEHL, of Louisville, then read his report on the progress of pharmacy, which was accepted.

The report of the Committee on Drug Market, L. Lehn, New York, Chairman, was read by J. P. REMINGTON, of Philadelphia. It consisted of brief references to drugs and new remedies, chiefly as regards their price and general use.

The Committee on Prize Essays reported that they had not awarded any prize because none of the papers submitted were worthy of such commendation.

The Committee on Legislation, John M. Maisch, Chairman, asked leave to submit the report in writing to the Committee on Publication, which was granted.

P. W. BEDFORD, Chairman of the Committee on Membership, then read his report, which was accepted.

The report of the Committee on Publication of the Report on the Revision of the U. S. Pharmacopœia was then read, and showed that contributions were received from more than one hundred sources, amounting to $812.50. The expenditures were $733.71, leaving a balance of $78.79, which was transferred, by consent, to the Centennial fund.

On motion by H. J. Menninger, the financial portion of the report was referred to the Auditing Committee appointed to audit the Treasurer's report.

The Chairman of the Executive Committee then read the names of sixteen additional applicants for membership, making a total of 157.

The Business Committee then called up the Report of the Committee on By-laws (relative to business council), and it was read by J. P. Remington, of Philadelphia, Chairman of the Committee. The essential feature of the report was that it provided for creating a council that will take the place of the Executive and Business Committees, and thus relieve the general Association of its cumbersome detail work. After considerable conversational and explanatory discussion, the report of the committee was adopted, three-fourths of those present voting in the affirmative. The Council will consist of seventeen members, nine of whom shall be elected by ballot by the Association in the following manner: *three* to serve *one* year, *three* to serve *two* years, and *three* to serve *three* years, and at each subsequent annual meeting three members shall be elected to take the place of those whose terms of office shall then expire, and to serve for a term of three years.

The President, the three Vice-Presidents, the Secretary, the Treasurer, the Local Secretary, and the Reporter on the Progress of Pharmacy shall be *ex-officio* members of the Council.

The members of the Council to be elected at each annual meeting shall be placed in nomination by the Committee on Nomination. The officers shall consist of a Chairman, a Vice-Chairman, and a Secretary, to be elected by ballot annually by the Council. All vacancies in the Council shall be filled by the Association at the annual meeting next following their occurrence. The Council shall be charged with the transaction of unfinished business of the Association, and shall arrange the business of the sessions during the annual meetings, etc.

There shall be elected annually, by ballot by the Council, three standing committees: one on membership, one on publication, and one on finances, to whom shall be referred the business of those departments, and who shall report annually to the Council, or oftener if the Council shall so direct.

The Council shall have charge of the roll and the publication of the proceedings.

The names of the applicants for membership shall be read in a general session of the Association, and new members shall be elected by ballot by the Council. No name shall be voted upon unless presented by the Council, and the Council shall decide upon any objection presented with reference to candidates for membership. All business of the Association not of a scientific character shall be in charge of the Council, the minutes of which shall be read in full at each annual meeting, and their acts shall be subject to revision by the Association.

On motion by Dr. E. R. Squibb, of Brooklyn, the Committee on Nomination was instructed to present the names of nine members for the Council, to be balloted for at the last session of the present annual meeting.

The Association then adjourned, and accompanied the Committee in making an examination of the specimens on exhibition.

THURSDAY, SEPT. 16TH.—THIRD DAY.—MORNING SESSION.

The Association was called to order at 10 A.M. by the President.

The Secretary read a telegram from the California College of Pharmacy, bringing greetings to the American Pharmaceutical Association.

The Business Committee asked for the appointment of a committee which should report on the time and place for holding the next annual meeting.

Invitations were announced from Cincinnati, Chicago, Kansas City, Asbury Park, Washington, D. C., Milwaukee, and Peoria.

The President appointed as the Committee, G. F. H. Markoe, E. Lilly, and G. J. Luhn.

A NEW PLAN FOR THE FORMATION OF THE COMMITTEE ON NOMINATIONS.

DR. E. R. SQUIBB, of Brooklyn, introduced a resolution providing for a change in the By-Laws concerning the formation of the Committee on Nominations. It was substantially as follows: Immediately after the reading of the minutes of the preceding session, in the second session of each annual meeting, it shall be the duty of the presiding officer to call upon the delegation from States, Districts, Territories, and Provinces to select one delegate from each State, District, Territory, or Province, and report the name of such delegate to the Association as the chosen member of the Nominating Committee. The names so reported, together with the last President of the Association, or in his absence one of the last Vice-Presidents, shall constitute the Nominating Committee.

Joseph Roberts, of Baltimore, offered, as an amendment, that immediately after the reading of the minutes of the preceding session, in the second session of each annual meeting, it shall be the duty of the presiding officer to call upon the Association to nominate persons to be voted for for the positions of President, First, Second, and Third Vice-Presidents for the ensuing year, and that the Association shall at once proceed to elect these officers by ballot. All the other officers of the Association shall be nominated by the Council.

On motion by J. P. Remington, of Philadelphia, the consideration of the resolution and its amendment was made a special order for the afternoon session.

Oscar Oldberg, of Washington, D. C., read an exhaustive paper on *Pharmacopœial Nomenclature*, which was discussed by J. P. Remington, E. R. Squibb, and John M. Maisch.

On motion by P. W. Bedford a vote of thanks was given to Prof. Oldberg for his admirable paper.

The Chairman, E. Scheffer, of the Committee on the President's address, reported in favor of heartily indorsing the action of the Committee on Legislation, from the Western Druggists' Association, in its efforts to secure either a repeal or a modification of the law concerning the stamp tax on medicine, perfumery, etc.

On motion by J. F. Moore, of Baltimore, this portion of the report was subsequently amended by inserting the words "excepting proprietary medicines," and then adopted by the Association. Resolutions were also adopted providing for the carrying into effect of the action of the Association.

Charles F. Fish, of Saratoga, then read a paper on

THE MINERAL SPRINGS OF SARATOGA.

The author first gave a brief historical sketch of the village of Saratoga and its surroundings, and then proceeded to speak of the theories concerning the sources of its mineral waters. All the rocks of this county belong to the lowest systems of geological formations, and are both metamorphic and sedimentary in character (the geological formations were represented upon a chart). The theories concerning the origin of the mineral waters are two in number.

First, that they are produced by the process of displacement, or percolation of the surface water through the rocks, and carrying with the various constituents of which the rocks are composed, and reappear at the "fault" in the geological strata caused by an upheaval of remote origin.

Second, that the water derives its mineral properties at the "fault," and is essentially unimpregnated until that point is reached, and that its mineral constituents are obtained from the heated interior by the process of sublimation and subsequent absorption, while the gases are also derived from the same source in a free state.

The author then described the method of securing the mineral springs of this locality. The depth at which the rock is situated below the surface varies from fifteen to fifty-seven feet. The springs secured by drilling into the rock vary in depth from fifty to three hundred feet in depth, and the temperature of the water obtained is practically isothermic: the maximum being 52° and the minimum 40° F., and the flow and temperature being uniform throughout the year. The Geyser, Vichy, Champion, Kissingen, and the so-called Magnetic (which is devoid of magnetic properties) springs were obtained by drilling.

The author then gave a classification of mineral waters, and subsequently referred to the therapeutical application of this natural remedial agent.

The Committee on the *time* and *the place* for holding the next annual meeting then reported in favor of Washington, D. C., and the meeting to be held in September, 1881, beginning on the *second* Tuesday.

Discussion was postponed until the afternoon session, when the report was amended by designating Kansas City, Mo., as the place, and changing the time to the *third* Tuesday in August.

In the first morning session on Friday, the time of holding the annual meeting was changed to the *fourth* Tuesday in August.

C. Lewis Diehl, of Louisville, Ky., then read a paper on

FLUID EXTRACTS.

Dr. E. R. Squibb, of Brooklyn, asked Prof. Diehl whether or not he noticed any considerable proportion, with a weak percolate, that remained insoluble in the fluid extract; and also whether he noticed that the residue of the evaporated portion was of the same character as the contents of the reserved portion. He regarded these as prime points in considering the value of the process proposed for making fluid extracts. The value of the claim for the process of repercolation depends particularly upon the total avoidance of heat in the making of fluid extracts, and, if it be of any force at all, the above questions were pertinent to it.

Another point was with reference to the adoption of volume for weight, and not weight for weight, as decided upon by the Committee on the Revision of the Pharmacopœia. He asked whether any experiments had been made to determine whether or not the menstruum used might not be so modified as to bring the matter within practical reach; that is to say, cannot the menstruum be so modified as to represent weight for weight? The point made was that a menstruum that did not dissolve the constituents of the drugs afterward, although it might extract them, would not produce a liquid that contained the constituents of the original substance.

Prof. Diehl replied that in his first paper on this subject he had stated that when the original menstruum was restored in the proportion in which it was before evaporation, the extracts were almost always dissolved again. That point he has settled with regard to the fluid extracts upon which he had made experiments previously, and, in making the experiments reported in the present paper, he had found that the same thing held true with reference to nearly all of them. On general principles he was opposed to any such method, because it will lead us to adopt menstruum which will not be proper for the best extraction of a drug, holding everything extracted in solution. He thought, however, that if a reasonably fair set of formulæ could be obtained for the pharmacopœia, we should be reasonably satisfied.

Prof. John M. Maisch, of Philadelphia, remarked that, while be believed with Dr. Squibb that it would be well to harmonize volume and weight, he would go even farther, cite instances in which that cannot be done, and give it as his opinion that fluid extracts should be made weight for weight. He thought it was a great mistake to use only weights in the Pharmacopœia, except with reference to one class of preparations.

FERRIC HYDRATE.

The next paper, an answer to query 20, was read by G. F. H. Markoe, of Boston.

"What are the advantages and objections to preparing ferric hydrate by the use of concentrated solutions of ammonia and ferric sulphate, as compared with the use of diluted solutions, with the special object of employing the ferric hydrate in making the cale salts of iron."

He advocates the use of the dense form of ferric hydrate for use in making other iron preparations. This dense hydrate is, of course, obtained by using more concentrated solutions. It may be prepared either with ordinary or with stronger water of ammonia.

Hydrated ferric oxide, as an antidote for arsenic, should be prepared from *dilute* solutions, in order to insure more rapid solubility in acids.

Dr. Squibb thought that if Prof. Markoe had extended his observations to the precipitate afterward, and said how much sulphate of ammonia was left in the iron, he would have covered the ground more closely. He thought Prof. Markoe would have found, by so doing, that considerable sulphate of ammonia was left in the iron precipitated, and that it was not washable out, in the ordinary sense, and also that it was very effectual in rendering the hydrate soluble in citric acid, and other things added afterward.

Prof. Markoe remarked that he was aware of the fact mentioned by Dr. Squibb, in a chemical point of view, and that he recommended the preparation exhibited merely for specific purposes.

RHAMNUS PURSHIANA.

The next paper was an answer to query 12, and was read by Geo. W. Kennedy, of Pottsville, Pa.

"Rhamnus purshiana has attracted considerable attention as a purgative remedy. What forms of galenical preparations of it are desirable, and how should they be prepared?"

The writer recommended a fluid extract and an elixir as the only preparations, to his knowledge, at this time prescribed and used. He recommended an elixir made from the weaker pharmaceutical preparations, because it is more palatable.

ASPIDIUM MARGINALE.

Geo. W. Kennedy also read an answer to query 16.

"Aspidium marginale has been found by Mr. C. H. Cressler to be very similar in its medicinal value to the European Aspidium *filix mas*. Can the rhizome of the American plant be obtained in quantities? If so, should the latter not be recognized by our Pharmacopœia in place of *filix mas?*"

The answer was, that, since its therapeutic properties have been found efficient, there should be no objection to its introduction into the Pharmacopœia, and the two substances used indiscriminately in the preparation of the oleoresin.

The next paper was an answer by S. L. Coffin, of Chicago, to query 17, and was read by Dr. H. J. Menninger.

"Aromatic Spirits of Ammonia has been Proposed as a Menstruum for Exhausting Lupulin. Has this any Advantage over Alcohol?"

He stated that he finds them equally good for this purpose. He has also learned from physicians that the tincture prepared with the aromatic spirit of ammonia presents no therapeutic advantages.

The Committee on the Centennial Fund then reported that the amount of money in their hands was $577.81, thus insuring to the Association the $500 offered by residents of Philadelphia and vicinity.

Third Day.—Afternoon Session.

The Association was called to order at 3.45 p.m. by the First Vice-President, G. H. Schaefer, of Fort Madison, Iowa.

The special order being Dr. Squibb's resolution, providing for a new plan of forming the Nominating Committee.

Mr. Jos. Roberts, of Baltimore, offered his amendment, which gave rise to discussion that was participated in by J. P. Remington, A. E. Ebert, L. E. Nicot, G. F. H. Markoe, C. Eberle, G. M. Baker, Maine, and J. F. Moore.

Mr. Nicot, of Brooklyn, moved to postpone the question indefinitely. Lost: ayes, 44; nayes, 53. The discussion was continued, and W. P. De Forest, of Brooklyn, moved to lay the subject on the table. Ayes, 52; nayes, 52. The Vice-President cast his vote in the negative, and after further discussion a vote was reached upon the substitute, which was adopted. Ayes, 62; nayes, 21. A vote by ballot was then taken on the original resolution, as amended, and it failed to secure the requisite three-fourths to adopt it. Ayes, 69; nays, 44. A ballot was then taken for the names of sixteen candidates for membership, and all were unanimously elected.

The Auditing Committee reported that they found the Treasurer's account correct, and also the financial portion of the report of the Committee on the Revision of the Pharmacopœia. The report was adopted, and a special vote of thanks extended to the Treasurer for his faithful and efficient labors.

J. U. Lloyd, of Cincinnati, O., then read a paper in answer to Query 21:

"The Resin of Leptandra Virginica (the Leptandrin of Commerce) varies much in Appearance and Sensible Properties. To what Cause are these Varying Results to be attributed? What is the Best Process for the Preparation of the Resin, and what is the Average Yield of the Root?"

The commercial "leptandrin," as made by different manufacturers, varies considerably in appearance. This is owing to two causes, viz.: first, to a difference in fineness of powder; and second, to a difference in composition.

If an alcoholic tincture of the root of *Leptandra Virginica* is evaporated to a thick syrup, and the latter is poured into cold water, a black, tarry substance separates. On being washed with water, it becomes tasteless, and may be dried and powdered. At present, manufacturers probably prepare "leptandrin" by another process, and not by precipitation. Prof. John King made his original preparation from the root in this manner. But his therapeutical observations are based on the results obtained from a dried mixture of the aqueous and alcoholic extract.

"Leptandria" was discovered by Merrel, in 1850. This substance, however, has been found to be devoid of medicinal properties. The active principle has so far not been isolated; yet it is well known that the root, as well as the active kinds of "leptandrin," possess laxative properties.

Mr. Lloyd exhibited a large mass of the precipitates above mentioned, the result of working with 1,000 lbs. of the root.

The next paper was read by Frederick B. Power, of Philadelphia, and entitled: "Constituents of the Rhizoma or Asarum Canadense."

The Executive Committee then announced the names of *eight* candidates for membership. They were elected at a subsequent session, making in all 165 new members.

Friday, Sept. 17th.—Fourth Day.—Morning Session.

The Association was called to order at 9.30 a.m. by the President, and the minutes of the previous session were read and approved.

A. G. Vogeler then read a paper on a "Formula for Syrup of Liquorice Root."

This was followed by a paper by Louis Dohme, of Baltimore: "Would the Substitution of Citrate of Sodium for Citrate of Ammonium in the Officinal Pyro-phosphate of Iron, make the latter less liable to become insoluble in keeping?"

A paper was also read upon the same subject by C. Caspari, Jr., Baltimore, Md.

A paper on "Elixirs," accompanied by samples, was then read by R. W. Gardner, of New York, in which, after pointing out the absolute necessity of establishing standard formulæ for the principal elixirs, he proposed that the Association appoint a Standing Committee on Elixirs, and that the members be requested to send to that Committee samples of all elixirs considered proper; each bottle to bear a label giving the working formula, date of preparation, and name of contributor; that the Committee prepare elixirs from such published formulæ as may be thought proper; that these various specimens be kept, and their condition reported upon, or exhibited each year, for say three years, at the end of which period such preparations as have stood the test of time, are the most palatable, etc., be given the sanction of the Association, credit being given to the originator.

The author submitted several formulæ.

A. G. Vogeler, of Chicago, then read a paper in answer to Query 10:

"Fruit Syrups; an Essay on them, with Special Reference to their Probable Introduction into the next Pharmacopœia."

These may be prepared either by combining the juice, expressed from the fruit, with sugar, or the uninjured berries are mixed with the sugar, when the latter will extract the juice, leaving the berries shrivelled and tasteless. Among the fruit syrups discussed by Mr. Vogeler, *Syrup of Raspberries* is the most important. He quotes the following different methods of preparation:

1. Contuse the berries, put them into a suitable vessel or vat, add two per cent. of sugar, and allow them to ferment at a temperature of 70–80° F. from three to four days, until the pectin has separated, and no more signs of fermentation are noticeable. Express, let the juice settle for a few days in a cool place, decant and filter. Preserve the juice by Appert's process (introducing the juice into stout bottles, not quite filling them, corking, setting them into a vessel full of cold water, with straw packed between them, so that the water reaches up to the shoulder, and slowly heating the water to boiling; then securing the cork with wax), or convert it into a syrup by dissolving nine parts of sugar in five of the juice, and heating to boiling.

2. A better way is to add at once to the freshly bruised fruit five to six per cent. of alcohol; then proceed as in No. 1.

3. Crush the berries in a glass vessel with a wooden pestle, add five to ten per cent. of cane or grape-sugar, and allow to stand, stirring occasionally. When fermentation is completed the juice becomes clear. Filter and bottle.

4. Put 4 lbs. of the berries into a china bowl with 1 qt. of water containing 2½ oz. of citric acid in solution. Let remain twenty-four hours. Strain, taking care not to bruise the fruit. To 1 pint of the clear liquid add 1¼ lbs. of sugar, and stir until it is dissolved.

5. Proceed as in No. 1. When the fermentation is nearly over, express the juice, and add to each pound of it f. ℥ j. of deodorized alcohol. Set it aside for one night, filter and bottle, or convert into syrup.

6. Macerate the berries interspersed with layers of sugar, 1¾ lbs. to 1 lb. of berries, for twenty-four hours, in a cool cellar, and drain off the juice. Preserve by Appert's process.

7. Add to the foregoing product some alcohol or a little bisulphite of lime.

8. Pure fruit-juice, ℥ xvi.; dil. acetic acid, f. ℥ j.; water, f. ℥ vii.; granulated sugar, 3 lbs. Dissolve without heat. The acetic acid is considered by the author as objectionable.

The *Nominating Committee* then completed their report, as follows:

For *Local Secretary:* Wm. F. Ford, of Kansas City, Mo.

For *Members of the Council,* to serve *three* years: J. P. Remington, of Philadelphia, Pa.; G. W. Kennedy, of Pottsville, Pa., and H. J. Menninger, of Brooklyn, N. Y. To serve *two* years: Thomas Whitfield, of Chicago; Wm. Saunders, of London, Ont., Canada; and S. A. D. Sheppard, of Boston, Mass. To serve *one* year: W. J. M. Gordon, of Cincinnati, O.; John Ingalls, of Macon, Ga.; and Joseph Roberts, of Baltimore.

The Secretary was instructed to cast an affirmative ballot for Mr. Ford for Local Secretary.

The Association then balloted for members of the Council, and the gentlemen nominated by the committee were unanimously elected.

The *Committee on New Membership* was enlarged, so that it consists of the following members: P. W. Bedford, of New York; E. C. Jones, of Philadelphia; S. A. D. Sheppard, of Boston; R. H. Cowdrey, of Chicago; G. A. Schaefer, of Ft. Madison, Iowa; Jas. G. Steele, of San Franciso, Cal.; Thos. J. Casper, of Springfield, O.; Wm. Moll, of Saginaw City, Mich.; Rudolph H. Hasting, of Denver, Col.; H. J. Rose, of Ontario, Canada; L. M. Connor, of Dallas, Texas, and John Ingalls, of Macon, Ga.

A vote of thanks to the Committee on New Membership for last year was unanimously adopted.

On motion by the Business Committee, a vote of thanks was unanimously tendered to the Local Secretary, Mr. Chas. F. Fish, and to the citizens of Saratoga, for the efficient and courteous management of the details connected with the annual meeting.

The names of three candidates for membership were then read, and the Association took a recess of five minutes.

At the expiration of that time the Association was called to order, and the minutes of the previous session were read and approved.

The three candidates for membership were then balloted for and unanimously elected, making a total of one hundred and sixty-eight new members elected at this annual meeting.

A. B. Huested, of Albany, moved that the thanks of the Association are hereby tendered to the proprietors of the Saratoga mineral springs for their kindness and courtesy during the present annual meeting of the Association.

C. Eberle, of Philadelphia, moved that a vote of thanks be tendered the proprietors of the Congress Hall, which was unanimously carried.

On motion by Wm. Saunders, the thanks of the Association were extended to the retiring officers for their efficient services.

C. H. Dalrymple, Chairman of the Committee, reported that the Committee had carefully examined all the exhibits, and asked permission to prepare their report in writing for the Committee of Publication, within thirty days. Leave was granted.

The list of queries was then read by the Secretary.

On motion by H. J. Menninger, the queries to which no response had been received will be dropped from the list unless notice be given to the Secretary at once, by the gentlemen who accepted them, that they wish to continue them for another year.

The minutes of the present session were then read and approved, and the President then declared the Association adjourned, to meet in Kansas City on the fourth Monday of August, 1881.

The whole number registered at the twenty-eighth annual meeting was one hundred and eighty-seven.

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AMERICAN ACADEMY OF MEDICINE.

Fifth Annual Meeting.

THE Academy assembled at Manning Hall, Brown University, Providence, R. I., on Tuesday, September 28th. The first session was a business meeting at 4 P.M. About twenty-five fellows were present. **DR. FREDERICK D. LENTE**, of New York, President of the Academy, occupied the chair.

ELECTION OF NEW MEMBERS.

First came the election of new members, the following gentlemen being made fellows of the Academy: Drs. James Chester Morris, Philadelphia; H. Webster Jones, Samuel J. Jones, and Chas. Gilman Smith, Chicago; P. S. Conner, Cincinnati; Cornelius Rea Agnew, New York; Chas. O'Leary, Providence, R. I.; Robert Amory, Brookline, Mass.; J. W. C. Ely, Providence, R. I.; Theophilus S. Hartley, Ridgeway, Penn.; Lloyd Morton, Pawtucket, R. I.; Albert E. Ham, George W. Porter, and George D. Hersey, Providence, R. I.; Theodore T. Wing, Susquehanna, Penn.; Francis M. Perkins, Philadelphia; Audley Haslett and Joseph Mott Turner, Brooklyn, N. Y.; Lemuel J. Deal, Philadelphia; Nathan Allen, Lowell, Mass.; William Elmer, Jr., Trenton, N. J.; Chas. Carroll Lee, New York; William Elmer, Princeton, N. J.; Lewis D. Harlow, Philadelphia; Theophilus Parvin, Indianopolis, Ind.; Albert H. Smith, Philadelphia.

The reading of the report of the "Council" was next in order, by the Secretary, **DR. RICHARD J. DUNGLISON**, of Philadelphia.

A proposed amendment to the constitution was brought up and discussed, but will lie over until next year's meeting for conclusive action. It related to clauses first and second of Section II., Article III., which designate the requirements for admission to the Academy. As amended, the two clauses will be united into one, and read as follows: "The degree of Bachelor of Arts, *or* Master of Arts, etc.," clause fourth of the same section to be correspondingly amended.

CERTIFICATE OF MEMBERSHIP OF THE ACADEMY.

Drs. P. D. Keyser, R. J. Dunglison, and L. H. Steiner were appointed a special committee to prepare a "certificate of membership" for the Academy, and have the same engraved and printed. A committee of three was also appointed to nominate a list of officers for the coming year.

REGULATING THE PRACTICE OF MEDICINE.

It was moved that the "Council be instructed, during the next year, to collect all the laws in any degree bearing on the regulation of the practice of medicine in all the states of the Union and also in the Dominion of Canada, and to prepare a digest of the same for presentation to the Academy at its next annual meeting." After brief discussion the resolution was adopted.

It was next voted to invite President Robinson, of Brown University, to open the evening session with prayer. The faculty and students of the University were also cordially invited to be present, it being announced from the Chair that it was pre-eminently one of the objects of the Academy to interest and instruct *young* men in the subjects under consideration. The business meeting then adjourned till 10 A.M. the next day.

After prayer by Rev. Dr. Robinson, **DR. FREDERICK D. LENTE** delivered the annual address, which was the special object of the session. After a few introductory words, the subject of the evening was announced to be

THE HIGHER EDUCATION OF MEDICAL MEN,

and its influence on the profession and the public. Dr. Lente admitted that our profession did not occupy so favorable a position with regard to the public as it did in its earlier stages. The same was true of the legal and other professions. If we would reform evils we must thoroughly understand their nature. The standard of medical schools had deteriorated. Those of a hundred years ago required a far higher preliminary standard than those of today. How was it possible for a student to mentally digest all the varied subjects now gone over in the short time allotted to them. Forty years ago students were obliged to work all their time in order to pass examination for their degree in medicine, but there were no special branches taught then.

There were far too many medical schools. In the United States, twenty-one, known as "regular," were established between 1867 and 1876. The natural outgrowth of excess in number of schools was a great rivalry among them respecting their number of students, and their chief aim seemed to be, not so much to make *good* doctors as a large number of doctors. It becomes a question of *duty* v. *interest* with these too numerous medical institutions. In some countries a population of twenty-five hundred, and in this, one of fifteen hundred, was required to support a physician decently, and keep him in a condition to work effectively in his profession. But in the United States there was now a physician to every six hundred inhabitants, whereas, in thirteen other countries, there was only one in twenty-eight hundred. A whole book might be written on the vicious results of overcrowding the ranks of our profession. A great number of doctors had to *struggle* for the bare necessaries of life—work so hard for a *living* that the higher aims of a physician's life were lost. The lamentable instances of gross ignorance and carelessness were too frequent. Despite, however, certain unfavorable conditions, many American physicians stand second to none in the world. In the realms of uterine surgery and anæsthesia, for instance, our position was very high. Our medical literature was beginning to command the attention of the world, though the number of published works was still ridiculously small. It was a significant fact, that the preliminary education of many men, high in our ranks as practitioners, was insufficient to admit of their ever becoming authors. The Medical and Surgical Report of the U. S. Army and Navy, deserved highest praise, as does also the National Medical Library.

How could the number of physicians be limited? was an important question. Why not, like manufactories, "shut down" when supply was in excess of demand, and not produce so many? The doors were too wide open to the study of medicine—much more so here than in other countries.

The study of medicine had come to be regarded as a very simple affair; hence, our ablest young men went into law or theology. Those who were too lazy to work, or too dull to take up with law or the ministry, studied medicine. In England not two per cent. of medical students were graduates of the universities. But a change was already taking place. Progress in science, and interest in sanitary science, and the greater circulation of scientific periodicals among the people, rendered a physician poorly read in scientific subjects no longer safe among his patrons. How to raise the standard of medical education was the vital question. Various attempts had been made by appointing one and another board of examiners, censors, etc. The National Association of Medical Colleges had sought to enforce a *three years'* course; the American Medical Association had made one committee after another, but none of these methods had been sufficient. The same had been true of England. Preliminary examinations had been urged, but what did they amount to? Sir Wm. Gull's idea was to have the examination conducted by men not in the profession. In Germany preliminary examinations were not relied on; they were a measure of *cramming* and not of real acquisition. What means, then, are left? Refer to the constitution of the American Academy of Medicine, Article II., wherein the objects of the Academy are stated to be, 1st, "to bring those who are alumni of classical, scientific, and medical schools into closer relations with each other," and, 2d, "to encourage young men to pursue regular courses of study in classical and scientific institutions before entering upon the study of medicine." Young men should be made to show evidence of good preliminary training before they were allowed to commence professional study; in other words, must have received a degree from some respectable college which required a four years' course after two years of preparatory study.

This may seem utopian, and objections might be raised, some of which might be anticipated. Exceptional cases were quoted where a few rare men, like John Hunter, had risen from no preliminary discipline to the first rank in the profession. But such men, more than any others, themselves missed and lamented their loss of early advantages. Many professors in medical schools had no A.B. True, but the degrees of A.B. and A.M. did bear evidence of a certain number of years of devotion to study and life in literary surroundings. It may be claimed that too much time was wasted in college curriculums. Dr. Lente maintained that the classics had a value in medicine above a mere literary and linguistic discipline. A medium course between the classics and a too purely scientific course would best meet the demand. It had been said that improvements had already been made in longer terms and more thorough preliminary requirements. This did not apply, surely, to the great majority of schools. Too great exclusiveness might be charged. He asked, in reply, Who could not go to college these days? If the average young man so wills, he can accomplish it. Indeed, this profession *should be* more *exclusive* than any other, and a degree in medicine should mean the same the world over, whether under the auspices of anarchy, monarchy, or republic. This *exclusiveness* would help rid us of superfluous members. The *guarantee* of a literary education was what distinguishes the American Academy of Medicine, and its diploma would be of aid at home and abroad. Members of the profession at large might be excluded from our ranks by one clause in our constitution. He urged the importance of clinical teaching, and regretted that it could be enjoyed by so comparatively few. He approved of state boards of examiners for the degree of M.D., and the college which would not educate for such an examination should not be supported. The plan of conjoint boards of examiners was now being agitated. Cease granting charters to any more medical societies without the approval of the State Society.

He claimed that *three* years was not enough to teach all that pertained to practice, and it was simply impossible for the student to gain a thorough knowledge of the special branches in the time allotted to them. The profession had probably sustained no greater disgrace than from the conflicting opinions of pseudo-experts. Any union of medicine and state was not to be thought of. The lectureships and lecturers in our schools of highest standard were well worthy our respect and praise.

The closing session of the Academy occurred Wednesday, September 29th, at 10 A.M. Dr. Lente presided.

Dr. E. H. M. Sell, for the Committee on Nominations, reported the following list of officers for the coming year, all of whom were unanimously elected: *President*—Edward T. Caswell, M.D., of Providence, R. I. *Vice-Presidents*—Henry Orlando Marcy, M.D., of Cambridge, Mass.; Wm. T. Taylor, M.D., of Philadelphia; Howard Pinckney, M.D., of New York; Horace Lathrop, M.D., of Coopertown, N. Y.

Secretary and Treasurer—Richard J. Dunglison, M.D., of Philadelphia. *Assistant Secretary*—Charles McIntyre, Jr., M.D., of Easton, Penn.

Dr. Traill Green offered the following: *Resolved*, "That the thanks of the Academy be presented to the authorities of Brown University for their hospitality, and to the resident members of the Academy for their efficiency in providing for this session."

The above resolution was unanimously adopted, and also another. thanking the President for his able address, and referring the same for publication. Then, there being no motion before the meeting, an informal discussion took place on general subjects relating to the welfare of the organization, after which the Academy adjourned *sine die*.

Correspondence.

MALARIAL MANIA.

To the Editor of The Medical Record.

Sir:—In the following remarks I shall endeavor to insert the point of the wedge, which, by the repeated blows of abler and stronger minds, shall tear asunder the encircling bonds of fashion which force those who, by the brilliancy of their intellects, should know, and do know better, than to ascribe to malaria the honor, if honor it be, of being the source of all the ills which we mortals inherit. In order that the reader may the more readily understand my own position in regard to this subject, I will state that I accept beyond a doubt, first, that malaria does exist; second, that the malarial poison produces a specific disease; third, that this specific disease may be a complication of other diseases; and, further, I have a growing suspicion, which during the last few months is fast ripening into a conviction, that mental malaria is a prevalent disease, hitherto overlooked, yet none the less present among us. During my observations of some years, the tendency on the part of the rural doctor has been to conceal obscure diseases under the malarial cloak, and not until the indignation of the misnamed visitor has reached so high a pitch as to thrust his entire physique through this unseemly garment so as to be recognized by any layman, has the medical expert laid aside the mask.

Only a short time ago two of my patients were taken to the city for consultation with two of our leading specialists. Case first, an epileptic, was carefully questioned and examined, the place of residence was ascertained, and, with a self-conscious smile, he repeated the word *malaria*. His anti-malarial prescription was written; the medicine was taken by the patient, with the expected result on my part, viz., failure.

Case second: aphonia from acute laryngitis. Similar experience with our specialist, similar treatment, with similar result. Impression made by both specialists on minds of all interested: "examples of malarial mania." The physician in case first assured me that remaining a few hours in the locality where I reside caused him to suffer an attack of intermittent fever; in fact, he believes that passing through the district in an express train has produced such an attack.

A practitioner from a neighboring town, a senior in years, volunteered the advice, that if I hoped to become a successful physician, I must add a large proportion of quiniæ sulphatis to every prescription; and, judging from the liberal use he himself makes of this drug, I am satisfied that he believes what he preaches.

Again, on a recent visit to the examining physician of one of our life insurance companies, his first observation was an examination of the liver and spleen, "for enlargement," he said, "as I lived in a malarial district."

Without wishing to multiply instances of this character, let me say that if we accept the three principles in reference to malaria which are laid down at the beginning of this article, is it not plain that we must have something peculiar in a given case which will call to mind the fact that malarial poison is at work, just as we decide that scarlet fever is present, by its peculiar symptoms? It is not necessary to relate what these symptoms are; we are are all familiar with them, and yet in the two cases noted, aside from the fact that their homes are in a locality where intermittent fever does occur, there was nothing to warrant any such conclusions. In closing, let me remind the city specialists that if they desire to retain the confidence of the suburban doctor, something other than a continual reference to malaria as the source of all disease must be resorted to. H.

SANITARY ADMINISTRATION AND EPIDEMIC DISEASE.

To the Editor of The Medical Record.

Sir:—Not wishing to weary your readers by unnecessarily prolonging the discussion upon this subject, I wish only to answer a few of the statements in Prof. Lyman's paper in the Medical Record of September 4, 1880.

The illustration given by Dr. Lyman of the ravages of measles during the early history of the Sandwich Islands seems to me to have nothing whatever to do with the question of heredity, and to be capable of a very different explanation from that given by him.

My solution of this problem would be, that when epidemics are carried by the whites to ignorant and barbarous natives, unlearned in the proper management of such diseases, knowing absolutely nothing of hygiene or the proper medical treatment of such cases, it can scarcely be a cause of wonder that multitudes are slain.

The failure of heredity as a protection in measles is shown by the fact that severe and fatal epidemics of measles are not unknown even in our own day, as is witnessed by the epidemic occurring in Kiel during the year 1860. Dr. Lyman surely cannot have forgotten how severely our United States Army suffered from this same disease during 1862 and 1863.

A striking illustration of the failure of heredity to protect from epidemic disease is shown in the case of cholera.

In a certain part of India, known as the cholera district, cholera is, and has been from time immemorial, always endemic, and mounds are said to be formed of the bones of the unfortunate pilgrims who perish every year of the pilgrimage. Has the long continuance of this disease lessened its mortality?

The history of small-pox in England and the continent of Europe is also very instructive on that point. For hundreds of years this disease had full sway, and had it not been for the beneficent discovery of vaccination by Dr. Jenner, it would be slaying its thousands at the present day.

I must in this connection again ask Dr. Lyman to explain the reason why inoculation was abandoned, if it be true, as he says, that it is necessary to preserve the virus of epidemics in the community? Inoculation, if Dr. Lyman's theory be true, would seem to be just what is needed, and yet, as we all know, it has been universally abandoned.

Among the North American Indians, especially among the wilder tribes, who refuse to be vaccinated, and treat their small-pox patients by the incantations of the medicine man, small-pox is still a dreadful scourge, and heredity has not diminished an iota of its fatality.

I wish to remind the doctor of the failure of heredity to diminish the mortality from scarlatina in England and the rest of Great Britain, for, as is well known, the mortality from scarlatina is just as great as it was a century ago.

In all zymotic diseases the subtle poisons or germs of each one produces its specific disease, just as infallibly as the planted acorn produces the oak, and never any other kind of tree. I am unable to find a scintilla of evidence to show that any of the ordinary zymotic diseases have been in any respect modified by heredity, but present the same phenomena that they did in the earliest periods, when we have any authentic information concerning them.

Not only is heredity no protection from epidemics, but in some cases the mortality from them is actually increasing instead of diminishing in our day.

Dr. Farr, of England (in the Seventeenth Annual Report of the Registrar-General of England), has shown that the mortality from diarrhœa, summer cholera and diseases of a choleraic character, has been unusually great during the present century; that the mortality from them suddenly rose in 1827, and progressively increased till 1831, and that it still increased till 1838, and has kept on increasing until the present day.

In the bulletin of the National Board of Health (U. S.) for September 4, 1880, page 513, will be found a table showing the mortality for the country of Spain, for the month of June, 1880. This report shows that during the above period, four hundred and seventy nine (479) persons died of typhus fever.

On the same page will also be found an abstract of the mortality of part of the United States, embracing statistics of over eight million persons (8,188,414), with not a single case of typhus fever reported, and the following remark is made at the bottom of the same page: "In comparing this and other reports with those of the United States, the most conspicuous point of difference is the comparative absence of typhus fever in this country, where it is so rare as to give no appreciable death-rate for the whole population.

Now, what is the cause of this exemption from typhus in the United States—is it heredity? Can we suppose that there is anything peculiar in the organization of the people of Spain, that renders them liable to typhus fever whilst we are exempt? Surely not. Heredity and natural selection have just about as much to do with the spreading of zymotic diseases as the "baying of dogs upon the full moon." The simple explanation of this is of course the existence of bad hygiene, and when the same condition of things prevailed in England and this country, we had typhus fever as well as they.

Did heredity save Memphis from being desolated by yellow fever, and why has it escaped this year? Certain sanitarians, not believing in the heredity or natural selection of filth, have partially drained and cleansed unhappy Memphis, and see the result!

Dr. Lyman says in his article (p. 277):

"It is the long-continued weeding out of our communities by disease that has contributed to bring the human race to its present condition."

"A stern and unremitting process of natural selection, permitting only the survival of the fittest, is one of the principal sources of national vigor."

"Just as soon as this process is interfered with, by the misguided efforts of ignorant man, deterioration begins."

"In this connection it is suspiciously significant, that, during the past forty years of sanitary enthusiasm in England, the average duration of life in that country has not increased."

Truly "this is the most unkindest cut of all," and, if it means anything, gives the fair inference from the language used, that the misguided efforts of ignorant men (*i.e.*, sanitarians), in filling cesspools, improving drainage, and supplying pure air and water, are actually increasing instead of diminishing the mortality in England This seems, on the face of it, an astounding statement, and is worthy of inquiry as to its correctness. It is perfectly true that the mortality has scarcely diminished in England during the past forty years, but the Doctor should give the reasons for this condition of things, and not place all the burden of it upon the heads ot unhappy sanitarians.

The first reason or cause to be mentioned for this condition of affairs, is the immense emigration that has taken place from the British Islands during the past forty years. These emigrants are, as a class, in the prime of life and vigor, and their withdrawal from the population necessarily leaves behind them an abnormal proportion of the feeble, the very young and very old, thus increasing the average ratio of mortality.

The second cause and a most potent one, is the vast and alarming increase in the consumption of intoxicating drinks in Great Britain of late years, with the terrible increase of crime, pauperism, and disease which necessarily results therefrom.

Other reasons I might give, connected with the moral and social condition of society in Great Britain, but I have only space to give one (which is believed by good authorities to act more powerfully than any other), and that is the neglect of and wilful disobedience to the laws of health and hygiene, by the people of England. But, in order to show how mistaken Dr. Lyman is, I will only refer him to the sanitary condition of the city of London, England. In that city, as all know, the greatest efforts have been put forth to improve its sanitary condition, and London is to-day the healthiest large city in the world.

Its average annual mortality this year is twenty-three per thousand. Paris, France, has twenty-eight per thousand. Berlin has forty-four per thousand. New York, U. S., has twenty-five per thousand, Washington, D. C., has about thirty per thousand of annual mortality.

The Turk, when asked to improve sanitary matters in order that the people may not be swept away by pestilence, shrugs his shoulders and says: "It is fate; it is the will of Allah." People believing as Prof. Lyman does, calmly say: "Keep still, the fittest will survive." The reasons given in the two cases are very different, but the final result (inaction) is the same.

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ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from September 26, 1880, *to October* 2, 1880.

IRWIN, B. J. D., Major and Surgeon. Relieved from duty in Department of Dakota, and to report in person to the Lieut.-General Commanding Military Division of the Missouri for duty as Attending Surgeon at Headquarters of that Division, relieving Surgeon Spencer. S. O. 205, A. G. O., September 24, 1880.

SPENCER, W. C., Major and Surgeon. When relieved by Surgeon Irwin to report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 205, C. S., A. G. O.

GODDARD, C. E., Major and Surgeon. To report in person at the expiration of his present leave of absence to the Superintendent Mounted Recruiting Service for duty as Post Surgeon at the cavalry depot, Jefferson Barracks, Mo. S. O. 205, C. S., A. G. O.

BROWN, J. M., Capt. and Asst. Surgeon. To accompany Battalion, 16th Infantry, from cantonment on the Uncompahgre, Col., to Fort Garland, Col., and there remain on duty. S. O. 211, Department of the Missouri, September 22, 1880.

BREWER, J. W., Capt. and Asst. Surgeon. To report in person to the Commanding General, Department of the South, for assignment to duty. S. O. 205, C. S., A. G. O.

TREMAINE, W. S., Capt. and Asst. Surgeon. Relieved from duty in Department of the Missouri, and to report by letter, at the expiration of his present sick leave of absence, to the Surgeon-General. S. O. 205, C. S., A. G. O.

WEISEL, D., Capt. and Asst. Surgeon. To report in person at the expiration of his present leave of absence to the Commanding General, Department of the East, for assignment to duty. S. O. 205, C. S., A. G. O.

HARVEY, P. F., Capt. and Asst. Surgeon. Assigned to duty at Fort Snelling, Minn. S. O. 113, Department of Dakota, September 22, 1880.

Biart, V., First Lieut. and Asst. Surgeon. Relieved from duty in the Department of the Missouri, and to report in person, at the expiration of his present sick leave of absence, to the Commanding General, Department of Dakota, for assignment to duty. S. O. 205, C. S., A. G. O. The operation of the above order suspended until May 1, 1881. S. O. 209, A. G. O., September 30, 1880.

Benham, R. B., First Lieut. and Asst. Surgeon. Assigned to temporary duty with escort to working parties on extension of Northern Pacific Railroad, at Camp Houston, D. T. S. O. 113, C. S., Department of Dakota.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 2, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Sept. 25, 1880.	0	19	36	2	16	74	0	0
Oct. 2, 1880.	0	14	50	3	6	91	0	0

Aconite in Rheumatism and Neuralgia.—Dr. D. B. Simmons, of Yokohama, Japan, writes: "I see in some of the later numbers of our home journals two or three notices of the use of aconite in certain forms of rheumatism and neuralgia. From the reading of the articles on this subject, it would appear that their authors had the idea that they were stating *something new*.

"I would state, however, for their information, that an infusion of a native aconite root is in general use by the doctors of this country for these diseases, and is regarded by them as a remedy of great value for their relief or cure.

"As the medicine of Japan is that of the Chinese, the use of this drug in the East no doubt dates back many years, if not centuries."

American Association for the Cure of Inebriates.—The eleventh annual meeting of the American Association for the Cure of Inebriates will be held in New York City, October 20, 1880, at the rooms of the Young Men's Christian Association, commencing at 11 A.M., and continuing two days.

T. D. Crothers, M.D., *Secretary*.

Death of Dr. Eben Hunt.—A member of the Bellevue Hospital House Staff, Dr. Eben Hunt, died very suddenly of diphtheria last month. It is thought that the disease was contracted from a case which he had been visiting. Dr. Hunt was one of the most promising members of the house staff, and his untimely death is greatly deplored. He was a graduate from the academical department of Dartmouth College. He took his medical degree at the University College in this city, and was appointed on the house staff of Bellevue Hospital last spring. This is the second death that has occurred on the staff in the past two years.

Dr. Hunt's remains were taken to Whitehall, Ill., where members of his family live.

The Increase of Diphtheria.—The number of deaths from diphtheria in this city usually runs from thirty-five to forty-five. During the latter part of August and first of September this number increased to sixty-five, and remained between fifty and sixty during the whole of last month. In the week ending August 14th, the deaths were thirty-six. During the next week the number suddenly rose to sixty-five. It was noticed that a strong north-easterly storm had occurred just before this increase, which had made the tides very high. It was also observed that the cases were for the most part situated along the east and west sides of the city, but especially on the east side. In many of the tenement-houses the high tide had flooded the cellars, then receding, had left the floors damp and foul. In addition to this, there was a great deal of filth in or about the houses, noticeably in those that had been infected. There were eleven deaths in one tenement-house, and fourteen in another. By careful disinfection, cleansing, and isolation, as far as possible, as well as by distributing information by circulars to the inhabitants, the Board of Health were able to help in preventing further spread of the disease. It seems now to be decreasing slightly in amount.

Dr. T. M. Franklin, who has been for some time temporarily in charge of the insane asylum on Blackwell's Island, in place of Dr. A. E. Macdonald, the former Medical Superintendent, has been appointed Medical Superintendent by the Commissioners, at a salary of $2,000 per annum.

The Hospital of Oral Surgery.—The Philadelphia Dental College has established, in connection with its dental department, the Hospital of Oral Surgery, in order that its students may be instructed in the surgery of the mouth, as well as in mere mechanical dentistry. A clinic is held under the charge of Dr. Jos. E. Garretson, Prof. of Anatomy and Surgery, and the patients operated upon are kept in the wards of the hospital until able to return to their homes. This is a decided advance in the training of dental students, who, heretofore, have often been deficient in sound medical and surgical knowledge of the mouth and associate parts. There is also connected with the college an anatomical department, where every student may receive instruction in practical anatomy and dissection. The anatomical rooms are under the care of Dr. John B. Roberts.

The Needs of Veterinary Medicine.—In an address delivered by Dr. E. S. Bates, at the opening of the Columbia Veterinary College, in this city, the following statements were made: In the whole United States there are not enough educated veterinarians to supply even one to each large city, to say nothing of the country districts. From every part of the country he, as dean of the college, had received letters asking for good veterinary surgeons, and saying that there were none within 50 miles, none within 100 miles, or none within the State. The graduates of the Columbia Veterinary College had, without exception, secured at once lucrative practices, with incomes amounting even in the first year or two to $2,000, and over. The same was doubtless true of other college graduates. The total value of the stock of the country is estimated at $2,000,000,000. Yet the diseases which so often depreciate the value of this stock are for the most part in the hands of uneducated men.

The State Board of Health held a meeting at Albany, September 22d. The meeting was devoted principally to the consideration of the Buffalo and

Hart's Falls nuisances. The investigating committee reported that the unhealthiness existing in Buffalo, caused by the emptying of sewage into the canal, would probably be remedied by the local authorities by the construction of a new sewer passing under the canal and emptying into the lake. They also reported that the malarial troubles at Hart's Falls can be eradicated by the removal of the nearly stagnant pool, covering about three and a half acres, which is the cause of the evil. This can be accomplished by cutting off the entire area from the Hoosac River, draining the pool and filling in the basin.

Reports for public circulation were ordered to be prepared on the following subjects: Pollution of wells and general house sewage; drainage of towns and villages; offensive trades; dangers of kerosene and the prevention of accidents from its use; diphtheria; proper construction and ventilation of school buildings; small-pox and ventilation; disinfection.

The "Epizooty" has appeared among the horses of this city and is affecting them very extensively. The disease, which is a kind of influenza, has been quite severe in some cases, but there have been no deaths up to the present week, and, as a rule, the attacks are mild. The temperature in severe attacks runs up to 107° or 108°. Some veterinarians are inclined to think that the disease is not the epizooty after all; but this view does not seem probable.

During the present week the disease spread to Philadelphia and affected a large number of horses. It also seems to be extending up the Hudson, there being many cases along the river and at Poughkeepsie.

The Charters of the Philadelphia Bogus Medical Colleges Annulled.—On September 30th the charters of the Eclectic Medical College and of the American University of Medicine were annulled by the courts. This was done with the consent of Dean Buchanan, who has given up the fight. By Buchanan's own confession, over 40,000 bogus diplomas had been issued from the two institutions.

An Epidemic of Diphtheria is prevailing in Bennington, Vt. It began with a few isolated cases during the summer months. Toward the last of September it increased rapidly. Twenty cases were reported in four days. The public schools have been closed.

Removal of Epiglottis.—Dr. Clinton Wagner, of this city, successfully removed the epiglottis, at the Metropolitan Throat Hospital, on Tuesday last. A full report of the case will appear later.

Death of a Faster.—The *London Telegraph* relates the following: On September 13th an inquest was held by Dr. Diplock and a coroner's jury upon the body of one George Alvensbury, a suburban bookseller, who died on the 10th, from the effects of self-imposed starvation. Mr. Alvensbury appears, physically considered, to have been a strangely credulous soul, combining a profound belief in the Tannerian doctrines with a firm faith in the capability of disembodied spirits to administer supernatural nourishment to any fasting man who had faith enough to be assured of their especial protection and favor. Regulating his diet upon these convictions, he rejected all food for an unknown number of days, and, when urged by his landlady and friends to swallow something more solid than spring-water, indignantly replied: "Mind your own business; the spirits will keep me alive." The spirits, however, conspicuously failed to justify his confidence in their nutritive abilities, for he died of sheer hunger and in a frightul state of emaciation last Friday. His demise is rendered memorable by having elicited the following peculiar verdict from the jury which sat upon his wasted remains, viz.: "That deceased died from inanition from want of food, and that it (*sic*) was caused by misadventure."

The Hospital Saturday and Hospital Sunday Association of New York city met and organized at St. Luke's Hospital recently, by the adoption of a constitution and by-laws, and the election of the following board of officers: *President*—George McCulloch Miller; *Vice-President*—Hyman Blum; *Secretary*—The Rev. George S. Baker; *Treasurer*—Charles Lanier; *Executive Committee*—George Jones, the Rev. George S. Baker, Willy Wallach, Dr. Richard H. Derby; *Distributing Committee*—Frederick Sturges, the Rev. Thomas Armitage, Henry E. Pellew, Judge Oliver H. Palmer. The total amount collected last year was $26,000.

Progress of Medical Registration in this City.—Up to October 6th 2,250 physicians had registered at the County Clerk's office in this city. Of this number 24 had registered since October 1st. Reports from various parts of the state show that registration has, as a rule, been quite thoroughly done.

Color-Blindness in the British Medical Association.—In the recent Cambridge meeting of this Association, Mr. Herbert W. Page examined 700 members for color-blindness. Of these 700, there were 12 who were completely color-blind (6 being red-blind and 6 green-blind), and 2 who were incompletely color-blind. In four others the chromatic sense was feeble. All who were thus color-blind knew of their defect, but several who thought they had this visual defect were found to be all right. The examinations of Mr. Page give a much lower per cent. (only 1.71) than has been found by Dr. Jeffries and others. After speaking of the great importance of this examination in calling the attention of medical men to the matter, Mr. Page adds: It should be especially observed that this examination has dealt only with congenital color-blindness, and has taken no account of the color-blindness which is a symptom of various pathological states, notably of the amblyopia due to chronic tobacco-poisoning, which may affect those whose color-perception has been perfectly acute. The existence of such a condition, and it is by no means uncommon, shows how great is the necessity that the examination of railway men and sailors should be made, not only before they enter their respective services, but should be also periodical, and conducted by competent observers, among all who are so employed.

Books Received.

Atlas of Human Anatomy. By Drs. Oesterreicher and Erdl. With Explanatory Text by J. A. Jeançon, M.D. Parts V.—XIV. Cincinnati: A. E. Wilde & Co.

Treatise on the Practice of Medicine, for Students and Practitioners. By Roberts Bartholow, M.A., M.D., LL.D. New York: D. Appleton & Co. 1880.

A New Case Record, General and Gynæcological, for Chronic and Acute Diseases. By Joel A. Nuner. Ann Arbor, Mich.

Wood's Library—Diseases of the Pharynx, Larynx, and Trachea. By Morel Mackenzie, M.D. Lond., etc. New York: W. Wood & Co.

Wood's Library—A Treatise on Common Forms of Functional Nervous Diseases. By L. Putzel, M.D. New York: W. Wood & Co.

Nasal Catarrh. By Beverley Robinson, M.D. W. Wood & Co.

Original Communications.

THE PRACTICAL BEARINGS OF THE CRANIAL BONES

In their Relations to Surgery and Medicine.

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It is a fact to be regretted that the study of the bony framework should be so often made one of dry detail to the student, especially as it is usually the first subject which, as an aspirant for future medical honors, he is obliged to encounter, and which too often tends to cast a shadow over the bright visions which his fancies had painted, as its perplexities increase.

Sir Charles Bell was in the habit of frequently employing the *living subject* as one of the most efficient means of teaching anatomy, and the points which he thus impressed upon his pupils were furthermore made matters not only of information but of practical interest, by the constant application of the regions discussed to the needs of the physician in his daily associations with the sick.

There are many well-known facts in anatomy which can be taught without the aid of dissection; and many of those well versed in theoretical anatomy, and who could, if necessary, pass a satisfactory examination upon the subject, would utterly fail if compelled to point out upon the cadaver many of the structures concerning which they think themselves familiar. Holden recognized the necessity of this method of demonstration of anatomy upon the living subject, and the need of guidance, which the general profession accepted, when he published his "Surgical and Anatomical Landmarks;" and the success of the effort has justified its republication in one of our popular text-books.

In this article it is my intention to direct attention to such points upon the cranial bones as seem to me capable of being applied to the general practice of medicine and surgery, and I shall endeavor to so apply them as to once more recall scattered points which may have been known and forgotten, and, if possible, suggest means by which this information may be fixed in the memory. It is not to be expected that many original ideas will be presented, as the researches of the greater anatomists have left little to be added, which can help to make this line of study attractive, to which a claim of originality can justly be laid; but much that is old will bear repeating with profit, and many facts which are now scattered throughout text-books will be rendered more useful if compiled in the same article.

The entire skull is sometimes deficient at the time of birth, and the term "acrania" was applied by Béclard to this condition, while the term "anencephalia" was applied by him to those forms of arrested development of the skull where the base only is present.

We find that the *orifice of the ear* corresponds, in the normal skull, nearly to the level of the floor of the cerebrum; so that the height of the skull above this point indicates, in general, the relative amount of brain possessed by an individual. If a string be made to pass from one external auditory meatus to the other over any part of the calvaria, the relative development of that portion of the brain to other portions can be approximately determined.

The *bony skull-cap* is not often symmetrically developed upon its two lateral halves. The frequency of this lack of symmetry may be appreciated by examining the impressions of heads taken by any of our prominent hatters. No two skulls have identical measurements or contour, since, although faces are never alike, mechanical causes may furthermore alter the shape of the head. (This is evidenced to a marked degree in certain Indian tribes, where the heads of the young are mechanically compressed.)

In the head we have the bony framework of the cranium and face covered by its soft tissues. We have its numerous cavities, ridges, depressions, prominences, and foramina. In its soft tissues ramify many of the more important nerves and vessels of the body, while within its cavities are contained the organs which afford the special senses of sight, smell, hearing, and taste, and also the brain with its ganglia, its protective coverings, its vessels, and the nerves by which it performs its various functions.

We find these various component parts so nicely adjusted, as to weight, that the head is almost perfectly balanced upon the spinal column, and so articulated to the trunk as to facilitate the motions of flexion, extension, and rotation without injury to any of its structures.

It is my purpose, in this paper, to treat of those practical points which are afforded by the osteology of the head alone, and to show in how many ways the study of this portion of human anatomy may constantly suggest to the physician new thoughts of value.

THICKNESS OF THE SKULL.

The skull-cap is not of *equal thickness* in all its parts; neither is it of the same thickness in all individuals. It is thicker at the occipital protuberance than elsewhere, and thinnest over the temple. Holden's rule for trephining should never be forgotten: "Think you are operating upon the thinnest skull ever seen, and thinner in one half of the circle than the other."

Trephining the cranium should be regarded as an operation always fraught with danger,* and only to be performed from absolute necessity. The following general rules† should guide in deciding the question: 1st. In diffused injuries to the cranium and its contents all operative interference is unjustifiable; 2d, in simple fractures, with or without depression, operative interference is only called for when marked and persistent symptoms of local compression of the brain exist; 3d, in compound comminuted fractures, with or without brain symptoms, the depressed bones should be elevated and the fragments removed, with the object of taking away known sources of irritation to the membranes, a common cause of encephalitis; 4th, in all cases of local injury to the cranium, of fracture, or other injury, followed by clear clinical evidence of local inflammation of the bone and persistent symptoms of brain irritation or subosteal suppuration, the operation should be undertaken.

Old people often suffer absorption of the diploë, and thus are especially liable to present very thin skulls.

The exterior of the skull-cap *does not correspond* absolutely to the *eminences* and *depressions of the surface of the brain*, but it bears, in some cases, a resemblance to its general outline. Phrenology cannot, therefore, be more than an approximate science.

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* F. LeG. Clarke.

† T. Bryant.

The thickness of the skull-cap seems to be modified somewhat by the exposure of the head to the effect of the sun, as it is usually very thick in the Egyptian, and in other races where the head is generally uncovered; while it is liable to be very thin and soft in the Persian race, and in other races where the head is covered with a turban from infancy.

TABLETS OF THE SKULL.

The *middle tablet* of the skull-cap (diploë) is abundantly supplied with veins. It is not infrequent that a suppurative phlebitis of these veins is created by wounds received upon the head, even when the scalp is not lacerated, or symptoms of depression of the skull exist. Such an occurrence usually results in disintegration of the blood-clots formed within the inflamed veins, which are carried downward to the heart, and are then thrown into the arteries, only to act as emboli and induce infarction and metastatic abscesses in the various viscera. This probably explains why pyæmia occurs in closed wounds, where no opportunity seems to be afforded for the absorption of any poisonous miasm generated from decomposing pus.

The *tablets of the skull* differ in their relative densities—the inner table being extremely brittle, the middle being spongy and vascular, while the outer table is more yielding and tenacious than the inner. Guthrie * states that sabre-cuts of the head, making only an incision of the outer table, may splinter and depress the inner table over a large extent of surface.

The large number of cases in which the inner tablet has been fractured when the outer table has been uninjured, seems to prove that the brittleness of the inner table, as well as the fact that it is the last to feel the blow inflicted, tends to render it especially liable to fracture. It is, therefore, important that all forms of injury of the head be examined for evidences of local pressure upon, or injury to the adjacent brain-substance, even if no superficial injury to the bone can be detected.

The aperture of exit of a bullet is always larger than that of its entry,† and, in gunshot wounds of the skull, the most damage to surrounding parts may thus be produced at that point.

It is also a well-known fact that some forms of injury to the bony vault of the head are followed by an enormous increase over the average thickness of the skull-cap at the seat of injury, and thus a valuable point in diagnosis is often afforded, where, from defective memory on the part of the patient, or other causes, the seat of former injury cannot be absolutely defined.

GUIDES TO INTERCEREBRAL POINTS OF INTEREST.

A line drawn from the *external angular process* of the frontal bone to the *external auditory meatus* corresponds closely to the level of the floor of the anterior and middle lobes of the brain; while one drawn from the *external auditory meatus* to the *occipital protuberance* corresponds to the level of the base of the posterior lobe of the cerebrum, and to the upper surface of the cerebellum.

The level of the *floor of the brain*, in front, corresponds to a line drawn transversely across the forehead, about one-quarter of an inch above the supra-orbital arch.

The *lowest level* of the *cerebellum* cannot be defined upon the living subject by any given rule. It depends entirely upon the extent to which the occipital fossa bulges into the neck. It is this variation which produces the peculiarities of outline of the back and lower portion of the skull in different individuals.

The *longitudinal sinuses* of the brain may be injured by any wound in the median line of the cranium, above the level of the occipital protuberance, since these venous channels are formed by the separation of the two layers of the falx cerebri.

It was an old practice among the earlier physicians to *leech the nose* to relieve congestion of the brain, and it is recognized that epistaxis is often a great relief in cases of congestive headache. This circumstance is explained by the anatomical fact that the veins of the *frontal sinus* communicate, through the foramen cæcum, with the superior longitudinal sinus of the brain.*

In the tiger, cats, and other of the feline race, the partition between the lateral halves of the cerebrum, corresponding to the *falx cerebri* of man, is not fibrous in character, but is composed entirely of bone.

The *lateral sinuses* correspond, for a part of their course, to a line drawn from the mastoid process to the occipital protuberance, but that portion of the lateral sinus which is indicated by a groove in the postero-inferior angle of the parietal bone, may be defined by measuring one inch from the anterior border of the mastoid process, on a line with the zygoma.

The *tentorium cerebelli*, in man, supports the posterior lobe of the brain and protects it from the injuries which must, of necessity, often occur from concussion, if it rested upon bone. In the carnivora and other mammalia, the tentorium cerebelli is ossified.

SUTURES OF THE CRANIUM.

The *coronal suture* (frontal-parietal) separates the frontal bone from the parietal bone of either side. In the coronal suture, the middle portion is formed by the frontal bone overlapping the parietal, while, at the sides, the parietal bone overlaps the frontal; a provision which manifestly is intended to prevent displacement of the bones.

The *lambdoidal suture* (parieto-occipital) also extends, like the coronal, transversely across the head, separating the posterior borders of each parietal bone from the occipital bone.

The *frontal suture* separates the two lateral halves of the frontal bone until ossification is perfected between them. It is therefore situated in the median line of the forehead.

In one out of every eleven cases of adult skulls found in the catacombs at Paris, the frontal suture remained unobliterated.

The *masto-parietal suture* separates the posterior inferior angle of the parietal bone from the mastoid portion of the temporal bone.

The *squamous suture* separates the parietal bone and the great wing of the sphenoid bone from the squamous portion of the temporal bone. It consists, therefore, of two portions, viz.: the "squamo-parietal" and the "squamo-sphenoidal" sutures.

In the mastoid suture, small isolated bones called "Wormian bones" are chiefly found.†

The *sutures* of the *cranium* are of great practical interest for the following reasons:

1. Because they may be mistaken for a fracture, as was done by Hippocrates himself.‡

2. Because, in any form of injury of the skull, it is

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* Guthrie: Commentaries, Lect. XVIII.

† Erichsen: Science and Art of Surgery.

* Quain.

† Leach. This fact is also described by Eustachius and Paracelsus.

‡ Celsus.

not advisable to trephine over the normal situation of a suture.

3. Because they enable us to definitely locate the position of any portion of the head of the child during labor.

The *sagittal suture* runs from the frontal to the superior angle of the occipital bone, and lies in the mesial line of the skull. At either end of it lie the two largest fontanelles, viz., the anterior and the posterior. The edges of the parietal bones which form this suture are very much serrated, except opposite the parietal foramina, where these serrations are much less prominent.[*]

THE NASAL FOSSA.

The *external aperture of the nose* lies on a plane below the bony floor of the nasal fossa.[†] The nose has, therefore, to be pulled upward, to allow of a free inspection of the inferior meatus for polypi or foreign bodies.

Since the perpendicular axis of the inferior meatus is much greater than the transverse, forceps introduced into the nose, for the purpose of removing either a growth or foreign body, should be opened in the longest axis of the nasal fossa.[‡]

The *turbinated bones* serve to afford a large expanse of surface for the distribution of the nerves of smell (olfactory). They are, therefore, studded with grooves and canals, through which the nerves come down from the cribriform plate of the ethmoid to spread themselves out upon the mucous membrane of the nose.

In man, they only form a single curve; but in animals, where the sense of smell is greatly developed, they often make rolls within rolls, like a sheet of parchment which has been rolled together. In the seal, they are arranged as individual and parallel plates, and are of great number, so that 120 square inches of surface has been computed to exist in each nostril.

An arrest in the progressive ossification of the perpendicular plate of the ethmoid bone occasions the deformity known as the "pug nose."

The roof of the nose is extremely thin, being formed only of the cribriform plate of the ethmoid bone, so that perforation of the brain is extremely easy to be performed at this point. The old Egyptians were in the habit of first removing the brain through the nose with an iron hook before commencing the process of embalming,[§] and subsequently the cavity of the cranium was filled with drugs through the same channel.[‖]

An anatomical peculiarity of the skull of the negro race is often exhibited in the nasal fossa, as a *fourth meatus*, which lies above the superior turbinated bone.

The *bony edge* of the *anterior nares* is a guide to the lower orifice of the nasal duct, which appears as a minute slit, about one-quarter of an inch behind the bony edge of the nose, on a level with the inferior turbinated bone. The nasal duct is usually probed, in case the escape of the tears is obstructed from above downward, however, as its lower opening is difficult to reach, especially as it is situated upon the outer wall of the inferior meatus of the nose.[¶]

The *vomer* is not always felt to be in the median line, as it is often deflected toward either the right or left side. Cases are recorded where such an abnormality, when associated with a tumefaction of its mucous covering, has been mistaken for a polypus of the posterior nares, and attempts at its removal have been made.[*]

The *edge of the vomer* may be felt in examining the posterior nares with the finger. To accomplish this, the head must be thrown as far back as possible, in order to bring the upper and posterior part of the pharynx below the level of the soft palate, and the finger should be pushed upward behind the palate, and hooked forward till it enters the posterior nares. This step has a practical value in estimating the size of a plug, (usually one inch long and six lines wide),[†] to arrest nose-bleed, and in the diagnosis of polypi of the posterior portion of the nasal fossa.

OCCIPITAL BONE.

The *basilar process* of the *occipital bone* is within reach of the finger when introduced behind the soft palate until it touches the base of the skull (the position of the patient being the same as when the posterior nares are to be explored). It is often the seat of attachment of polypi[‡] within the pharynx, and a positive diagnosis can thus be made by the sense of touch, if sight or the laryngoscopic mirror detects the existence of such a tumor, and its point of attachment is a matter of doubt.

The upper surface of this process, although situated within the cranial cavity, affords support to the medulla oblongata. This important ganglion does not, however, rest upon the bone itself, since a thin layer of fluid is interposed, like a water-bed, to prevent injury to it in case of concussion being transmitted to the head through the spinal column.[§]

The strength of the ligaments which bind the head to the vertebral column do not alone prevent dislocation of the head, since the *deep cups* of the atlas hold the *condyles* of the *occipital bone* firmly in place.[‖]

The *centre* of the *condyles* upon which the head moves may be defined by a line which shall connect the hips of the two mastoid processes.

The *occipital protuberance*, being the thickest portion of the skull, is seldom fractured by violence received upon that point; but the same force, being transmitted, may create fractures either of the base or anterior portions of the skull.

The *condyles* of the *occipital bone* are much longer than the articulating cups of the Atlas, and thus permit the forward and backward motion of the head; while the *deep fossæ behind the condyles* allow an extra amount of motion in the backward direction, so that vision can be directed perpendicularly as well as in a horizontal direction.

The abnormalities in length of the *styloid processes* of the skull, which are occasionally found, are dependent upon an ossification of the stylo-hyoid ligament.

FRONTAL BONE.

The *orbital plates* of the *frontal bone* are often absorbed in the aged, and large holes in them may be frequently discovered. Their extreme thinness renders any form of punctured wound of the orbit liable to be complicated with injury to the frontal lobe o the brain.[*] The arch of the orbital plate is not uniform; and, if great, the frontal lobes of the brain are proportionably small. In the monkey tribe this is very apparent.

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[*] Broca: Ostéologie du crane, 1875.

[†] Holden.

[‡] H. H. Smith.

[§] Herodotus: Euterpe, chap. 86, 87, 88.

[‖] Holden states that in the collection of Egyptian skulls brought from Thebes by Prof. Flower, of London, every one showed the cribriform plate of the ethmoid bone destroyed.

[¶] Horner, Laforest.

[*] Jargavay: Anat. chir.

[†] Velpeau.

[‡] John Watson: Am. Med. Jour., 1842.

[§] Hilton: "Rest and Pain."

[‖] Quain.

In the frontal bone, after puberty has been reached, the tables of the skull-cap begin to separate; thus leaving a cavity called the *frontal sinus*, whose situation is usually indicated by a prominence of the forehead. It is a point of surgical value, that the frontal sinus may not be always proportionate to this eminence; and, in rare cases, the eminence may be entirely absent, in case the sinus be formed by a recession alone of the inner tablet of the skull. Wounds of the forehead over this sinus may break the skull without injury to the brain. Small insects have been known to enter this cavity through the nose. The sense of pain in the frontal region, which accompanies nasal catarrh, has been explained by some authors as an extension of the inflammation to the mucous membrane which lines this cavity.

Blumenbach mentions the case of a lady (Poulet ascribes this case to Maréchal of Metz) in whose frontal sinus a centipede managed to pass, after entering the nostril. It gave her intense pain, and was expelled alive one year afterwards during an attack of sneezing.[†]

The larvæ of insects, especially those of the horse-fly, not infrequently are found in the frontal cells of animals.[‡]

Sir Charles Bell[§] reports a case, where a patient, who had slept in barns, had a corn insect enter the frontal sinus, and which was discharged eventually as a worm.

Fractures of the skull over the frontal sinus may cause fragments of bone to be discharged by the nose, and a loss of smell is often produced by such accidents. Emphysema of the tissues[‖] about the forehead may be produced during attacks of sneezing or coughing, if the outer wall of the frontal sinus be injured, and air be thus allowed to escape.

In some tribes (especially the Australians), where the frontal sinuses are imperfectly developed, a want of resonance to the voice is produced.[¶]

Musket-balls have been found within the frontal sinuses.[**]

The *enormous air-chambers* in the head of the elephant explain why musket-balls may be shot into the cranium of that animal without apparent injury, unless it happen to wound the hollow at the root of the nose, at which place the encasement of the brain is very thin, or chance to enter the orbit. This arrangement, constituting an approach to a double skull, is a protective one on the part of nature, since the falling of trees, etc., to which danger this animal is constantly subjected, would otherwise be liable to produce fatal injuries.

The extent of the frontal sinuses differs in races and with age. They may reach, in extreme development, a depth of one inch, and extend more than half-way up the forehead.

Wounds of the frontal region are especially dangerous to life for four reasons: first, on account of nerves which may be wounded; second, from the danger of meningeal inflammation; third, from the fact that the frontal vessels, being derived from the same trunks as those of the cerebrum, may induce similar changes in the brain; and fourth, because the shock may create a tendency to inflammatory effusions upon the meninges, or within the ventricles.[††] The danger of this class of wounds was recognized by the ancients, who attributed it to injury of the "Galea Capitis,"[*] which, from its white color, they mistook for nerve-tissue.

PARIETAL BONE.

The *sutures* of the *parietal bone* are wonderfully adapted by nature to prevent displacement inward, since they are levelled upon alternate sides. It is therefore impossible to injure the brain in this region without a fracture having previously occurred.[†]

There are six portions of the cranium where ossification is delayed and where the pulsations of the brain may be felt. These spots are called *fontanelles*, since the brain pulsations were first likened to the bubbling of a spring. The fontanelles are called the anterior, posterior, and the lateral of either side;[‡] and they exist at the points where the angles of the several bones eventually meet. The *anterior* is quadrilateral, and is formed by the two parietal bones and the two halves of the frontal bone. The *posterior* is triangular, and is formed by the two parietal and the occipital bones. The *lateral* are usually nearly filled at the time of birth.

These openings are of value to the obstetrician in determining, by the sense of touch, the position of the child's head during the first and second stages of labor.

TEMPORAL BONE.

On the whole, the skeleton of the temple is thinner than that of the preceding region, and its external and internal periostea adhere to it more firmly, because there are here more sutures, which are united to each other by fibrous bands and emissary veins.

The *mastoid process* is intended chiefly to afford additional leverage to the muscles destined to act upon it.

The *mastoid process* contains numerous cells which communicate with the cavity of the middle ear. It has occasionally to be trephined in cases of suppurative osteitis, in order to afford an exit for the infiltrated pus.

Its *cells* are constantly filled with warm air, which enters the tympanum through the Eustachian tube, and which thus renders the bone lighter than if it were not thus excavated. These cells undoubtedly are an aid to the full development of the sense of hearing, since they increase the space in which the vibrations of the air contained within the middle ear may be diffused.

It was formerly the practice to *open these cells* in the mastoid process as a remedy for deafness, dependent upon obstruction of the Eustachian tube, since, by so doing, air was freely admitted to the cavity of the tympanum. The operation fell, however, into disrepute, from the death of the physician of the King of Denmark (Just Berger), who was himself made a subject for the operation.

The mastoid process transmits through the "mastoid foramen" a vein which communicates with the *lateral sinus* of the brain. This explains why leeches behind the ears relieve congestion of the brain.

The *supra-mastoid ridge* on the side of the skull is so extensively developed in the negro race, as to be possibly mistaken for an acquired deformity.

The *post-glenoid process* of the temporal bone is intended by nature as a protection against backward dislocation of the condyle of the lower jaw. It is much more extensively developed in the negro race and gorilla than in the European.

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[*] Holden: Human Osteology.
[†] Holden.
[‡] Poulet.
[§] System of Surgery.
[‖] Hyrtl: Topog. Anatomie.
[¶] Amman: De Loquela, 1700.
[**] Guthrie.
[††] Blandin.

[*] Another name for the tendon of the occipito-frontalis muscle.
[†] Horner.
[‡] Vogel.

The *external auditory canal* is narrowest at about its middle point.[*] For that reason, foreign bodies which enter the ear are apt to be pushed beyond this constriction during attempts at removal, and thus additional difficulty in the extraction is afforded. In addition to this fact, the natural moisture of the ear may cause some foreign bodies to swell, and thus render their removal a matter of great difficulty.

The *temporal fossæ* are largest in the carnivorous animals, as their size depends upon the relative strength and development of the *temporal muscles.* In some animals, the temporal muscle almost entirely covers the cranium.

The *zygomatic arch* is modified, as to its size, in all animals, by the development of the muscles of the jaw and by the character of the teeth which exist. It is most strongly marked in the carnivora, where it is arched both in a horizontal and a vertical direction, so as to afford abundant room for the play of the temporal muscle; while in the ant-eater, which has no teeth, the zygomatic arch is incomplete.

Between the *zygoma* and the ear can be often felt the pulsations of the main trunk of the temporal artery.

BASE OF THE SKULL.

In *fractures* of the *base of the skull,* blood and the cerebro-spinal fluid may flow from the ear of the affected side. If the latter escape, it indicates that the petrous portion of the temporal bone has been fissured, and the dura-mater sheath to the auditory and facial nerves has also been lacerated.

In this form of injury, as well as in diseases of the ear, the facial nerve may be implicated, since it passes through a canal (the aqueductus Fallopii) in the petrous portion of the temporal bone; and this explains why we sometimes have paralysis of the muscles of one side of the face under these circumstances. Pressure on this nerve, at its escape from the bone, as in case of tumors, parotid abscess, etc., may also produce a like effect.

In fracture at the base of the skull, blood often escapes from the nose. This is due to the fact that the air-cells in the body of the sphenoid bone are lined by a prolongation of the mucous membrane of the nose; and any fracture which involves the body of the sphenoid bone is liable to be associated with hemorrhage from the nostril.

Ecchymosis of the lower eyelid is a symptom very frequently associated with fracture of the base of the skull. This discoloration is subconjunctival in character, and appears, as a rule, within the first twenty-four hours after the accident. It may be explained as an infiltration of blood from the nasal cavity into the orbit, or by an escape of blood into the orbit, through the spheno-maxillary fissure, in case some one of the numerous vessels which enter the cranium at its base are involved.

It may also occur if the orbital plate of the frontal bone be involved, or when blood escapes through the sphenoidal fissure into the orbit.

BONES OF THE FACE.

Much of the character exhibited in the face depends upon the superior maxillary and inferior maxillary bones. In them the teeth are inserted, which contribute much to fill out the cheeks and to modify the character of the mouth, while to them most of the muscles of expression are attached.

The orbits are *surrounded,* at the facial margin, by a very strong ring of bone, while its upper wall is as thin as parchment.

The mechanical object of thus protecting the exposed portion of the orbit from injury is also still further shown by the strong ridge of bone which runs from the zygoma. It is thus almost impossible to directly crush in the orbit, except the most extreme violence is used.

The axis of the orbits are so directed that, if prolonged backward, they would meet at the sella turcica. This divergence affords to the eye a range of vision greatly in excess of that which would be afforded were the orbits directed in the antero-posterior plane.

The muscles of the eye are enabled to retract it within its socket, and thus to still further protect it from violence.

Injuries from pointed instruments within the orbit may produce death from injury to the brain.

Modifications in the configuration of the *hard palate* often affect the tone of the voice. On the hard palate can often be felt the pulsations of the posterior palatine artery, which escapes at the inner side of the last molar tooth.[*]

A pin introduced in the centre of the crucial suture of the hard palate would touch five bones, the fifth one being the vomer.

The *septum* between the nostrils is seldom exactly in the median line, and should not be considered as a deformity unless one nostril be seriously occluded.[†]

The lower edge of the *superior* and *middle turbinated bones* can be made visible by widely dilating the nostril. This is of importance in attempting to include the pedicle of a polypus within the grasp of a forceps.[‡]

The *second molar tooth* of the *upper jaw* is a guide to the orifice of the duct of the parotid gland (Steno's), which can be seen in the mouth as a small papilla on the mucous membrane of the cheek.

A line drawn from the interval between the *two bicuspid teeth* to the point of junction of the inner and middle thirds of the supra-orbital arch, will cross the *supra-orbital* and *infra-orbital foramina,* and, if prolonged downward, will intersect the *mental foramen.* This point is of value in dividing nerves for facial neuralgia. The division of the main trunks of either the third, fifth, or seventh nerves, in removing tumors or other operations upon the face, is apt to cause distortion of the features or loss of sensibility.[§] But in nearly every instance, as any deep incision must necessarily divide some portions of the nerves of the part, the surgeon can do little more than bear in mind the importance of avoiding them, if possible, or, at least, of not excising their trunks if they should be divided, as union may possibly restore their function.[‖]

The *last molar tooth* is a guide to the introduction of a tube into the mouth, in case of tetanic fixation of the jaw requiring forced alimentation, since a space exists between that tooth and the ramus of the jaw sufficiently large to admit a tube of moderate size.

The *cavity* of the *superior maxillary bone* (the antrum or[¶] maxillary sinus) is the frequent seat of disease. Within it[**] may be developed either solid or cystic tumors, and pus not infrequently accumulates. The close relation of the different walls of this cavity to important structures give to these growths more than a passing interest.

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[*] Wilde: Aural Surgery.

[*] Quain.

[†] Gross.

[‡] Watson.

[§] Horner: Special Anatomy.

[‖] H. H. Smith.

[¶] Galen.

[**] Highmore.

If the inner wall becomes expanded, the nostril may be occluded; if the lower wall, the roof of the mouth may be depressed; while the inferior maxillary nerve, which runs above it, may be pressed upon if the upper wall is affected, and the orbit may furthermore be so encroached upon as to greatly displace the eye. If the posterior wall be crowded backward the zygomatic fossa will be encroached upon, and tumors have thus created a marked swelling in the region of the temple.[*] Finally, the anterior wall may become prominent, and thus greatly distort and disfigure that side of the face.

The walls of the antrum are thicker in the child than in the adult, and for that reason the growth of tumors within that cavity will be liable to progress more rapidly after puberty than before. Suppuration of the antrum arises not infrequently from decay of the teeth, or from a failure to remove a nerve within a tooth after it has been killed by caustics previous to filling a cavity, since the putrefying nerve creates gas, which escapes from the end of the fang, and thus creates suppuration in and about the alveolar process.

The antrum is the largest of the air cavities of the head.[†] A large-sized musket-ball has been known to remain loose within it for years, and in some instances such balls have been known to escape through the roof of the mouth.[‡]

Drake reports a case where a woman endeavored to explore the cavity of the antrum through a socket of a tooth with a quill pen, and, to her horror, introduced the whole six inches of its length by its assuming a spiral direction within the cavity, and thus curling upon itself. She sought medical assistance, supposing it had entered her brain.

The *antrum* should be tapped in case of its distention from fluid either within the mouth, at a point situated one inch above the margin of the gum, covering the *first molar tooth*, or, that tooth having been drawn, puncture of the antrum should afterward be made through the socket; or, in case it is deemed important to preserve the teeth, puncture through the canine fossa, as recommended by Desault, or through the molar tuberosity, as recommended by Lemorier, can be performed.

The *nasal bones*, although slight and small in themselves, form an arch of enormous strength, whose buttresses are the superior maxillary bones, and whose centre is supported by the spine of the frontal bone. The feats of supporting great weights, such as a ladder with an adult on the top, as seen in the circuses, attest to the strength of this method of construction.

It is for this reason that fractures of the nasal bones are usually associated with a fracture of the perpendicular plate of the ethmoid bone, and occasionally with a fracture at the base of the skull.

The *lower jaw* in man consists of one bone, but in the serpent it consists of two symmetrical bones joined by an elastic band or ligament, which allows them to be separated in a lateral direction to a great extent. It is by means of this arrangement that the serpent is able to swallow its prey, which is often as large or even larger than its own body.

In man, however, this bone is very strong, so as to perform mastication even of hard substances, and its points for muscular attachment are rough and prominent, to afford the firmest possible union between the bone and the power which moves it.

The *absorption of the sockets* (the alveoli), which is natural in the old, constitutes a disease, when it occurs in youth or middle life. Such an absorption is liable to occur in cases of long salivation, scurvy, or purpura, and a premature age of the jaws is produced.

When the jaws are closed, we see that *each tooth* is *opposed by two teeth* in the other jaw, being an evident attempt on the part of nature to render the loss of any one tooth hardly perceptible in the act of mastication.

Each *external cusp* of the lower teeth fits into the hollows between the cusps of the teeth of the upper jaw, and thus ensure a more perfect adaptation of the grinding surfaces.

The two *condyles*, or articulating surfaces of the lower jaw, are not directed absolutely backward, but are placed at such an angle that, if their long axis were prolonged, they would intersect each other at the anterior edge of the "foramen magnum." This is to facilitate the rotary movements necessary for the mastication of our food.

Each *condyle* of the *lower jaw* can be felt in front of the ear, on motion being attempted. It can be felt to move forward when the mouth is held wide open, and return when the mouth is closed, thus affording the grinding motion demanded during mastication of food.

The *ramus* of the *lower jaw* partially protects the external carotid artery from injury, since the artery enters the parotid gland close to its posterior border.

The *symphysis* of the *lower jaw*, within the mouth, is a guide to divide the genio-hyo-glossus muscle, in case the tongue has to be drawn far out of the mouth to remove tumors of that organ, or in case it is divided as a means of cure for stammering.

The *coronoid process* of the *lower jaw* can be felt at the lateral and posterior part of the mouth. Its inner surface is a guide, in some cases, for puncture of a deep temporal abscess, since pus burrows between it and the tuberosity of the superior maxillary bone.

An attempt has been made to decide as to the character of food indicated by nature for the best nutrition of an animal by the character of his teeth. It does not always hold good, however, as, while man seems adapted to masticate both vegetable and animal food, the bat species have incisors, canines, and molars, and still some are purely frugivorous, while others live entirely on insects. The monkey tribe also have large canines, yet they live exclusively on vegetables.

The *angle* of the *lower jaw* marks a region of special surgical interest, since the temporal, temporo-maxillary, facial, external jugular and internal jugular veins can be found in the immediate vicinity. Hence the necessity of caution in operating in this vicinity.

The *internal angular process* of the frontal bone is used as a guide to detect the reflected tendon of the superior oblique muscle of the eye, which can be felt by pressing the finger beneath this process, and which should be always carefully avoided in operations in the vicinity of the orbit.

THE CRANIUM AS A WHOLE.

Holden, in his work on osteology, lays great stress upon the relative situation of the various *buttresses* of the different regions of the cranium, since, "like all other arches, the cranium transmits a shock toward its buttresses."

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[*] Blandin: Anat. Topog.
[†] Guthrie: Commentaries, p. 528.
[‡] Jargavay: Anatomie chirurgicale.

Thus, the frontal bone is supported by the malar bones and the wings of the sphenoid; the parietal bones by the temporal bones; the occipital bone by its entering the base of the skull and adjoining the body of the sphenoid.

It may, therefore, be often possible to predict the *direction* of the *course of a fracture*, produced by transmission of a force applied to the vault of the cranium, by a knowledge of the exact seat at which the force was first applied; and, by a thorough familiarity with the surgical bearings of the special cranial foramina, and the parts which lie in close contact with the different portions of each of the cranial bones, to *predict symptoms* which may subsequently be developed.

By far the greater proportion of the blows received by the head are applied to the parietal region. This bone rests upon the temporal bone, which is weakened by the following cavities and foramina: the meatus auditorius externus and internus, the tympanum, the cochlea and semicircular canals, the aqueductus Fallopii, the jugular fossa, the carotid canal, the opening of the Eustachian tube, the Glasserian fissure, and other smaller canals. It is therefore extremely probable that a fracture of the parietal bone will extend in a direction to involve some of these special portions of the temporal bone.

It has been argued in the past, by Malgaigne, Velpeau, and Béclard, that the analogy between the head and a sphere will account for many of the phenomena of transmitted force, producing the so-called "*fracture by contre-coup;*" and since a sphere, when struck smartly, is most apt to break at the point immediately opposite to the point where the blow was received, such an analogy would theoretically indicate a like effect within the skull. Practical observation seems to have proved this, however, to be a fallacy, and the defect in the analogy will account for the error in deduction.

The skull is in no respects a sphere; on the contrary, it can with far more reason be compared to an arch, and all mechanical deductions on the latter basis will approximate far more closely to the facts presented by nature than upon the previous hypothesis. It is the buttresses of the arch, all of which converge toward the body of the sphenoid bone as a centre, that feel, first and chiefly, the effects of transmitted force, and most "fractures by contre-coup" will be found to affect not antagonistic portions of the cranium, but the supports of that portion of the vault which is injured.

VARIATIONS IN THE FORM OF THE SKULL.

An external view of the head may show variations in its form. These may be due either to age, sex, national characteristics, or mechanical causes.

The *skull of the infant* is large in its occipital region, while its frontal region is imperfectly developed, and the face is extremely small in comparison with the skull, being usually only one-eighth of the entire weight.

The sutures are usually separated or imperfectly closed, and the fontanelles are apparent.

In *childhood* the face increases in its relative size, reaching one-quarter to one-third the weight of the skull; and the frontal and parietal regions also develop rapidly, giving the head a more symmetrical appearance.

The *skull of the female* is characterized by the following peculiarities:

1. The bones are individually smoother, lighter, and smaller.
2. The face is smaller in proportion to the skull.
3. The frontal sinuses are smaller than in the male.
4. The parietal region is very large in comparison with the frontal and occipital regions.
5. The jaws are much narrower than in the male.

Camper first pointed out the variations in the *skulls of different races*, and showed the modifications which ensued as civilization advanced. The more important points to which he called attention were as follows:

1. The smallest skulls are found in the Hindoo and the ancient Peruvian races.
2. The largest skulls are found in the Caffre and Scandinavian races.
3. The skulls of all *rude tribes* are characterized chiefly by the following deviations from those of the civilized races:
   (*a*) Prominent temporal ridges.
   (*b*) Extremely wide zygomatic arches.
   (*c*) " " anterior nares.
   (*d*) Extreme length and strength of the jaws.
   (*e*) " " of the incisor teeth.
   (*f*) Obliquity of the incisor teeth to each other when approximated, in contrast to the *right angle* found in civilized nations.
   (*g*) Prominence of the points of muscular attachments.

Among the deviations in form, dependent upon mechanical causes, may be enumerated:

1. Non-closure of the sutures (as in chronic hydrocephalus).
2. Imperfect ossification (as in rickets).
3. Excessive development.
4. Irregularities in shape, dependent upon a premature obliteration of the sutures (synostosis).
5. Acquired distortion, from compression, etc. (as in the flat-head Indian tribe).
6. New growths.

POISE OF THE HEAD AND THE DIAGNOSTIC VALUE OF DEVIATIONS FROM THE NORMAL ATTITUDE.

No part of the osseous system of man affords more striking evidence of his adaptation for the erect attitude than the cranium. The vertebral column forms a right angle with its base and thus affords it a direct support. The condyles, or points of articulation, are situated very near to the centre of its base; by which arrangement little active muscular power is required to maintain it *in equilibrio.* In this respect the human cranium differs from that of other animals, in which the condyles are usually placed much further back, especially in those animals where the head is suspended by an elastic structure (the ligamentum nuchæ) at the extremity of a spinal column which lies horizontally.

The head, as has been observed, consists of two distinct portions, the cranium and the face; the one being intended to contain the brain—the organ of the mind, and the organ of hearing; the other to enclose the organs of sight, smell, and taste. The more the organs of smell and taste are developed, the greater is the size of the face and the greater its relative proportion to that of the cranium. On the contrary, the larger the brain, the greater must be the capacity of the skull, and the greater its proportion to the face.

On this principle, a large cranium and a small face indicate a large brain with a restricted development of the sense of smell and taste; but a small cranium and a large face mark an opposite conformation. This point is of special value to the naturalist, insomuch as it affords him a means of relatively estimating the faculties, instincts, and capabilities of different individuals, as well as of different classes of animals.

Camper suggests a simple rule to estimate the proportion of the cranium to that of the face.

If a line be drawn upward from the side of the chin to the most prominent part of the forehead, it will form an angle with a horizontal line drawn backward over the external auditory foramen from the margin of the anterior nares; the *size of the angle* so formed will indicate the degree of development of the cranium and brain, as compared with that of the face and the organs of sense.

As examples of this, these lines are so nearly coincident in the crocodile as to form scarcely any appreciable angle; while, in the horse, it measures 23°; in the dog, 20° to 35°; in the ourang-outang, 56° to 60°; and in the European adult, from 85° to 95°. Thus, we find man at the top of the scale of all of the animate beings, and distinguished from the rest as well by his external conformation as by his physical and moral attributes and his internal organization.

The head is capable of direct movement only in one of three directions, viz., forward, backward, and a rotary movement. By means, however, of the cervical vertebræ, which have great mobility, the head may also be given a lateral inclination, and the forward and backward movement of the head may be also thus greatly increased. The different attitudes assumed by the head have not only a physiological interest but also a diagnostic value. By permitting a free and unrestricted use of the head, mankind is afforded a *scope of vision* equal to that of those animals, where the absence of such latitude of movement requires that the eye shall have multiple pupils or such a prominence of the eye itself as to permit it to cover all points with distinct vision without motion of the head. Furthermore, were it not for this mobility of the head and neck, *hearing* would also be rendered far less acute in man than in those animals who are provided with larger and movable ears.

The physiological acts of prehension of food and its mastication, the sucking of liquids through a tube, the swallowing of food after mastication, and that part of normal respiration which is performed in the larynx and hyoid region, are all materially assisted by movements of the head.

Much of the grace of movement which characterizes some individuals depends upon the carriage of the head as well as that of the trunk and extremities. The idiot* may often be told by the motions of the head alone.

The attitude of the head may have a diagnostic as well as a physiological value. Thus, in convulsions, the head is usually *inclined to one side*, from the destruction of the proper balance between the antagonistic power of the corresponding muscles on the side opposite those then in active exercise. In hemiplegia the same effect is produced, since the loss of nerve power affects only the muscles of one side. In dislocation of the cervical vertebræ, although an infrequent accident, the head is usually inclined from the mesial line of the trunk; and in glandular swellings and large cicatrices, from burns of the lateral aspect of the neck, a mechanical impediment is often produced to an erect poise of the head, which may demand surgical relief.

The head is bent *forward* in some types of vertebral malformations: in case of large growths upon the neck or shoulders, in emphysema, in the cicatrices of burns affecting the anterior portion of the neck, and in many conditions of the spinal column, muscles, or vessels, which render the erect position painful.

In almost all diseases resulting in extreme dyspnœa,* such as croup, laryngismus stridulous, laryngeal obstruction from foreign bodies, new growths, or paralysis, growths in the neck, asthma, pneumothorax, heart lesions, etc., the head is, as a rule, thrown backward to afford an unobstructed channel for air through the mouth, nares, and pharynx. The same attitude will be also perceived in tetanus, cerebro-spinal meningitis, and brain affections of children.†

As in some cases of deformity, resulting from permanent contraction of the muscles which affect the attitude of the head, a knowledge of the muscles which are involved may prove of service, I append a list of the muscles, which may assist in the various forms of distortion.

THE HEAD MAY BE MOVED

Forward, by	*Backward*, by	*Laterally*, by
Rectus cap. ant. major.	Rectus cap. post. major.	Platysma.
" " " minor.	" " " minor.	Sterno-mastoid.
Sterno-mastoid.	Complexus.	Part of trapezius.
Platysma myoides.	Splenius capitis.	Splenius capitis,
	Obliquus cap. sup.	" colli.
Assisted (when the lower jaw is fixed) by	Trachelo-mastoid.	Trachelo-mastoid.
	Part of trapezius.	Complexus.
Mylo-hyoid.		
Genio-hyoid.		
Genio-hyoglossus.		
Digastric.		

Certain muscles, which act alone upon the neck, may also assist in displacement of the head from its normal attitude, among which may be chiefly enumerated the longus colli, the scaleni muscles, the levator anguli scapulæ, the omo-hyoid, and some of the deep muscles of the back. The result of the contraction of any of the muscles enumerated must depend entirely upon the associate muscles in contraction, and upon the exciting cause; since, if either muscle acts in common with its fellow of the opposite side, the result will differ materially from that produced by the contraction of the same muscle or muscles acting without its fellow.

156 MADISON AVENUE, NEW YORK CITY.

A LARGE CALCULUS was removed from a patient in the Massachusetts General Hospital, by Dr. Bigelow, a short time ago. Its dimensions were 3¾ × 3½ × 3 inches, and it weighed 6,166 grains (about three-quarters of a pound). The stone was less than three years old, as the patient had been examined at that time. He had been able to work until three months before the operation. Dr. Bigelow at first tried crushing, but after working half an hour he had evacuated only 476 grains. The stone was very hard, and, furthermore, was too large to be grasped by the lithotrite. It was therefore decided to cut. Even then extraction was very difficult, as the patient's pelvis was small and the stone was adherent to the side of the bladder. At last, however, by using Fergusson's lion forceps, and by strongly pressing it down from above the pelvis, it was removed. The patient was much exhausted, but at the time of report, the third day after operation, he had no fever, and was doing well.—*Boston Medical and Surgical Journal.*

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* Hammond.

* Niemeyer, Corfe, Chas. Bell.

† Vogel.

CONVERGENT SQUINT.

Cause, Results, and Treatment.

By C. A. BUCKLIN, M.D.

(Continued from The Medical Record, Vol. xviii., No. 4.)

Having completed in a previous issue the consideration of the causes of squint, we will now consider its results and treatment clinically.

Case I.—Little girl, 12 years of age, daughter of Dr. D——. She has a hyperopia of $\frac{1}{12}$, and squinted strongly for three weeks. After hearing the opinion of several specialists, the plan of treatment which was adopted was to keep the fixing eye covered with a shade for a number of hours each day, hoping by thus forcing the child to use the squinting eye to prevent its acuteness of vision from being lost by disuse. The operation of tenotomy was to follow later.

By the use of test glasses I was unable to get any satisfactory results. Upon examination with the ophthalmoscope, hyperopia $\frac{1}{12}$ was easily recognized. Convex glasses No. 12 were given. The squint disappeared immediately. Two years have now elapsed and the child is perfectly free from squint, and finds it only necessary to wear glasses for reading or observing small and near objects.

Case II.—Annie L——; has hyperopia of $\frac{1}{12}$; has squinted badly for four years; came to me to be operated upon. The mobility of the eye toward the nose was not abnormally increased. While observing very small, near objects, the squinting eye made unusual spasmodic movements inward, thus showing that a great amount of accommodation was being produced in the fixing at the expense of position of the squinting eye. I therefore placed convex glasses No. 12 before her eyes, and, to my surprise, the squint disappeared entirely.

In both of the above cases the glasses reduced the amount of accommodation required to the normal standard; therefore, with the glasses on, if the children increased their accommodation by squinting, the increased lens power added to the glass lens made them near-sighted.

Without the glasses they could not see distinctly without squinting; with the glasses they cannot see if they squint.

Green has proposed to treat squint by continued instillations of atropine, thus paralyzing the accommodation. The patients deriving no benefit from trying to accommodate give it up and allow their eyes to remain parallel. I have no doubt but he has had some success with it. I have seen one case where it appeared to be of temporary benefit. If it has a place anywhere it is with children who are too young to wear glasses. It is certainly a scientific fact of interest that complete paralysis of the accommodation should cure squint. My experience has been, that, if the child is old enough to talk, this means of treatment is a pretty sure way of losing your patient.

The paralysis must be complete and must be maintained, if not *complete* the atropine only makes the squint worse. If a sufficient quantity is used to insure complete paralysis of the accommodation, the specific effects of belladonna poison are speedily developed. The parents rush in post haste to a family practitioner, who perhaps berates specialists in general, or they go to one of your good friends who is also an ophthalmologist. He will sympathizingly remark I would not like Doctor No. 1 to treat a child of mine. Doctor No. 1 is regarded in the same light as if he had operated upon the eye and destroyed it, when the only sin he committed was to put atropine in it.

In most cases of squint the internal muscle, by its continual over-strain, hypertrophies, and shortens so that if the accommodation is entirely released the muscle is too short to allow the eye to return to its normal position. *These two* cases, however, illustrate that it *is possible* for squint to exist from three weeks to four years, without the internal *rectus* undergoing organic shortening.

Case III.—Child thirteen years of age has H. $\frac{1}{15}$. Has squinted ten years. She carries pupil of the squinting eye half out of sight behind the nose, when she moves it to the utmost inward. (She should only be able to carry the sclerocorneal margin to the caruncle.) The fixing eye has only a normal amount of mobility inward.

When asked to observe a near object the squinting eye moves spasmodically inward. The muscle has become stronger and shorter from the constant exercise, and the eye cannot return to its normal position without the fixing eye makes a corresponding deviation inward. The acuteness of vision in the squinting eye is one-third as acute as in the other eye.

The above case represents the usual conditions found in a simple case of hyperopic squint.

The only way to treat it is by tenotomy. The way this was done is a fair description of how one should do it till they have had sufficient experience to choose for themselves as to the best method. The eye is held open with a spring speculum at a point where a vertical and horizontal tangent of the cornea would meet; a good firm fold of conjunctiva and subconjunctival tissue is grasped with a fixation forceps, the fold is elevated and cut through with a small pair of sharp scissors (they should cut perfectly to the extreme point). The first point is to be sure that the opening is not too small, and that you are *through* the capsule of Tennon. A blunt hook is now passed through the opening, with the point close on the sclera, pointing downward, passing it pretty well back; the hook is revolved on its shaft, keeping the point constantly in contact with the sclera. If these details have been properly carried out the tendon of the muscle will always be found on the hook. Slight tension is then made upon the hook to separate the muscle from the globe, and the tendon is cut through with the scissors. In our case this was done—the tendon, with its lateral attachments, were divided sufficiently so that the eye could only be carried inward till the edge of the cornea reached the lachrymal puncta. The results were so perfect that three months afterward I was unable to say, from a superficial examination, which was the eye operated upon; there was no scar and no abnormal limitation of the movement of the globe. If the first three cases one operates on are of so simple a nature, he is certain to regard himself as a very clever squint operator.

If the eyes can be made straight, without decreasing their mobility beyond the normal standard, the greatest perfection has been reached. It is, however, sometimes impossible.

Case IV.—Child nine years of age; has squinted for several years; hyperopia one-sixteenth. Mobility of squinting eye less than that of fixing eye, which is very uncommon.

Tenotomy on squinting eye had little or no effect. I next tenotomized the fixing eye and waited till she partially recovered from ether. Finding there was a slight cast remaining the ether was continued, and the tendon of the squinting eye was also carefully divided, I satisfying myself at each step that the mobility of neither eye was abnormally reduced. The result remained a perfect one.

Case V.—Miss M——; slightly hyperopic; squinted for ten years. When she observes a near object, the squinting eye makes strong movements inward. When the eye is at rest there is a decided squint. If she thinks any one is observing her she can generally look perfectly straight. She says I cannot tell always whether my eye is straight or not, but if any one tells me it is not, I can turn it straight. I convinced myself in a few moments that the above was true in every particular. The moment I asked her to look at any object, far or near, the squint came back instantly. Upon inquiry, she acknowledged that when she was holding her eye straight she could not see anything distinctly. To cover the mortification of having a deformed eye she had learned the unusual "*trick*" of relaxing her accommodation entirely, and then by a separate innervation of the external rectus she could hold her eye straight while any one was looking at her. This led her parents to believe for many years that she must outgrow it.

Glasses would not relieve the trouble. Tenotomy was resorted to. The position and motion of the eyes are perfect. A slight granulation is the only means by which one could judge that she had ever squinted.

Case VI. is a simple case of hyperopic squint with hyperopia $\frac{1}{6}$. After a single tenotomy there still remained a slight degree of squint, which entirely vanished as soon as his hyperopia was corrected with glasses. As it is necessary for him to wear spectacles to see well on account of his hyperopia, I think it would be unnecessary to limit the mobility of his eyes any more for the correction of the squint.

Case VII.—A lady, fifty-five years of age. Excessive myopic squint; far point of distinct vision two inches. In attempting to direct both eyes at a very near point both internal muscles became hypertrophied and shortened; consequently, when the optical axis of one eye occupies the position of an eye which is looking in the distance, the fellow eye must converge. She converged one eye nearly as frequently as the other, always fixing with the eye upon which the light fell the strongest, because that eye had the smallest pupil.

She consulted the leading ophthalmologists of this city. The first one, notwithstanding the impossibility of ever placing her eyes in such a position that they could both be directed at any one object they could see, did a double tenotomy for simple cosmetic purposes. No change in the position of the eyes followed the tenotomy.

Another specialist, hearing of the poor success of the first tenotomies, gave her a pair of glasses which, could she have seen through them, would have been of great benefit; but, to use her own words, she had to remove them to tell which way the stage was coming. He declined to operate, and advised her never to allow any one to operate.

I succeeded, with Dr. Pomeroy's assistance, by freeing both internal muscles and stitching both external muscles farther forward, in fulfilling the cosmetic indications perfectly. Her eyes are straight and mobility is good. Although these eyes, since she commenced to squint, never were in position where both eyes could observe the same object at the same time on a corresponding retinal point, consequently she never could see the same object with both eyes without seeing it double. I cannot speak very warmly of an operation which places the eyes in such a position that they cannot both fix on an object which is within their range of distinct vision. This case is no worse off in this respect; neither can it be said that she is any better. If squint is present in near-sighted persons where the far point is far enough away, or can be removed by the aid of glasses to such a distance that it is practical to converge both eyes at it, the squint may be satisfactorily cured with glasses alone, or with tenotomy and glasses.

Case VIII.—A case of myopic squint, tenotomized some years ago in Cincinnati four times. Slight divergence was the result, with double images, from the moment of the last tenotomy. I divided both external muscles, and he was able to merge the two retinal images into one again, thus having binocular vision restored, after having had six tenotomies. This is a very uncommon result, and only illustrates what I said above, that where the far point of distinct vision is far enough away to make it practical to direct both eyes at it, myopic squint is not difficult to deal with. Unfortunately, out of five cases I have met within the past year, in only one of them was the far point of distinct vision far enough away, nor could it be removed with glasses sufficiently to make its correction desirable on any but cosmetic grounds.

Accidents.—It will be seen, in operating for squint, the conditions to be fulfilled are to leave the eye in proper position without limiting its mobility. We are in *hyperopic* squint, where glasses are not to be worn, obliged to so weaken the internal muscle of the squinting eye that the same muscular contraction which formerly existed is not able to divide the eye abnormally inward, but not to so weaken it that when the muscle is perfectly relaxed that the eye wanders outward. The margin which remains between divergence when the accommodation is at rest, convergence, where it is active, is sometimes very small, as the following case illustrates:

Case IX.—Boy twelve years of age; hyperopia one-tenth. After two tenotomies the eyes were parallel. After three months, while observing any object, they remained in proper position, but upon becoming tired, or if his attention was not fixed upon any object, the eye which formerly squinted would wander slightly outward, but always returning when he was observing any object closely. The mobility of both eyes being good a simple tenotomy of both externi will probably remedy the trouble. Where the eye is carried inward from inflammatory contraction of a muscle, and hyperopia does not exist, the difficulties to be overcome are not so great. Here there is a broader margin between the limitation of motion required to keep the eye straight and divergence. After a single tenotomy the eye may refuse to move beyond the median line inward; sometimes it cannot be brought even to the median line. Such an accident can only be remedied by dividing the external rectus, and carefully dissecting out the internal muscle, which must be stitched as far forward as possible. The stitches should be passed under the conjunctiva from the wound above and below the cornea as far as the median line; thus a firm hold of the globe is insured. I never have seen any one who was able to get too much effect from this operation. The rule is, you must get all the effect you possibly can; at least try and converge the eye as far as the lachrymal puncta.

The plan of trying to catch the muscle together with a large fold of conjunctiva with forceps, and bring the whole mass forward, is as unscientific as it is uncertain. In the first place you can never be sure you have the muscle. If you have the muscle you never know whether you have a free end which will attach itself to the globe. Possibly the end is already curled up and attached to the conjunctiva, so that it is impossible for it to become attached to the globe.

You also have a large red fold of conjunctiva which requires years to absorb sufficiently not to be a decided deformity.

The best way is to avoid the above accidents by *insisting* that every eye you tenotomize shall move, at the time of the operation, to the lachrymal puncta. If this is always insisted upon many unpleasantnesses will be avoided. It makes no difference what the objections of the patient or friends are, if the eye has not a desirable amount of mobility the ether should be continued and the over effect should be taken up with a strong silk suture. There is no time better than this time to do it.

Where you operate and do not get enough effect, you certainly have done your patient no harm, which is not the case when you get a divergence.

I have seen two eyes where the vitreous chamber had been opened some years previous, during a squint operation. Such a wound closes without a suture. I should, however, prefer to unite the edges of the wound with a suture.

An accident which quite frequently happens is extravasation of blood in the *capsule of Tennon*. It usually makes a very black eye, but is not attended with any other unpleasant result. I have seen a hemorrhage so extensive from a simple cut through the conjunctiva that the tissues of the orbit swell sufficiently to force the spring speculum from the eye. The orbit appeared as if it were filled with an immense melanotic cancer; the retro-bulbar pressure was so great that the sensation of light vanished for several minutes. I lighted a lamp and the patient was unable to see it in a dark room four feet away. In from two to five minutes the vision began gradually to return. No unpleasant effects were experienced. In four weeks all traces of extravasated blood had disappeared.

RECAPITULATION.

1. All persons squint who can see by so doing and cannot see without. The degree of their hyperopia or the strength of their internal muscles can be what they may.
2. Every squinting eye that is not due to *paralysis* of a muscle can be straightened.
3. Never fail to satisfy yourself before leaving an eye you have tenotomized, that the mobility of the eye is sufficient.
4. The use of one eye is usually lost in convergent squint. Consequently its earliest symptoms should receive prompt attention.

The cases which I have reported to more practically illustrate my text, have been selected from a collection of over two hundred cases of squint personally examined by myself.

247 East Fiftieth Street.

* * *

Bromide of Ethyl is still used by Dr. Levis in his private practice. He considers it safer than chloroform and more agreeable than ether.

SUPPRESSION OF URINE FOR NINE DAYS.

Acute Diffuse Suppurative Nephritis Following Scarlatina.

By GEORGE F. BATES, M.D.,

NEW YORK.

The patient, Henry S. K——, a child of four, was attacked with scarlatina on the seventh of January. The first symptoms of the malady were vomiting and diarrhœa. Two other children in the family were ill of the same disease, one having been attacked two days before, the other on the same day as the patient above, and all with the same initial manifestations of vomiting and purging. In each case the rash developed within twelve hours. Henry had the disease in a mild form, the highest temperature having been 101¾° on the day the eruption appeared. The rash had entirely disappeared on the sixth day, and the patient was out of bed on the tenth day. From the sixteenth to the twenty-second of January the patient's temperature was normal, appetite only fair, complained of feeling tired, looked "kind of forlorn," as his mother expressed it, but otherwise appeared to be convalescing.

He was kept in the room in which he had been ill, was warmly clothed, and the temperature of the room was carefully regulated. The treatment, up to this time, had been: in a warm bath every evening; internally eight minims of the tincture of the chloride of iron, and one drachm of a saturated solution of chlorate of potash every three hours, and one grain of the tannate of quinine, in the form of a lozenge, three times daily.

On Wednesday morning, January 22d, the patient awoke complaining of nausea. After a light breakfast he was dressed, but felt too ill to sit up, and was put back in bed. He was given a dose of the spirits of nitrous ether, and soon thereafter voided two ounces of urine. From then till night he passed urine twice, half an ounce each time. The temperature at 11.30 P.M. was 100¾°. The urine passed was found loaded with albumen.

By the use of the hot-water baths free diaphoresis was induced, and two drachm doses of the bitartrate of soda were followed by active catharsis. A flaxseed poultice was applied over the loins, and frequently renewed. On the day following, the 23d, patient vomited several times. The temperature in the evening at eight was 101¼°. On the three succeeding days two hot-water baths daily were given, and the soda was continued; the sweating was profuse, and frequent watery stools were voided. The catheter was passed daily, and at no time was there obtained as much as a drachm of urine, and testing this small amount, it was found to contain seventy-five per cent. of albumen. A separate vessel was used at each stool to catch the urine should any be passed, but there was none. The temperature on the morning of the 24th was 103¼°. It ranged from this down to 99° for three days, being irregularly high and low without reference to the hour of the day, or any appreciable cause for its wide variation.

On January 26th, in the afternoon, the respirations became difficult and superficial, in number sixty per minute. I called Dr. Leaming in consultation. A hot-air bath was constructed, the temperature kept at 100° to 105°, and the patient placed in it. By Dr. Leaming's advice, five grains of the mild chloride of mercury were given. Cups were applied over the chest and kidneys, and one-half grain powders of digitalis were administered every six hours. On the following morning his condition was somewhat better, the respirations were forty-eight per minute, and deeper. The hot-air bath was kept up during the day, but as the skin did not seem to respond commensurately with the heat applied, a hot-water bath was ordered, and after the bath the patient was wrapped in blankets, and the diaphoresis desired was the result. The breathing became much improved, forty per minute, and not labored. The bowels acted freely, but the nausea and frequent emesis continued. A diet of milk had been ordered, but a small portion only was retained, and there was substituted whey with brandy and gin on alternate hours. The brain remained perfectly clear, and there was no anasarca.

On January 28th, Squibb's fluid extract of digitalis was substituted for the powder, and given in one-drop doses every four hours; also the oleoresin of cubebs in emulsion, minims three every three hours. Spongiopiline, soaked in an infusion of digitalis, ℥i. to ℥xx. was placed over the hypogastrium and over the loins. Pupils normal, and responded readily to the light. Bowels and skin active.

On the 29th, during the day there was no material change. During the night preceding $\frac{1}{16}$ of a grain of morphine was given to allay restlessness. In the evening, at six o'clock, patient's breathing became labored and slightly stridulous, and it was necessary to elevate his head to ease the respiration.

At 11 P.M. I found the patient's breathing stertorous, and accomplished only with the intensest effort, and there was every evidence of immediate dissolution, with the one exception of the pulse, which still continued full and forcible.

On the morning of the 30th, to my surprise I found the boy living, and breathing with comparative ease: respirations forty per minute. Ordered the body sponged with bay rum and warm water every three hours. The brandy, gin, and digitalis were continued. Called Dr. Gillette in consultation. Percussion revealed the right kidney at least enlarged. By Dr. Gillette's advice, the body from the axillæ to the hips was completely enveloped in one large flaxseed poultice. Temperature at 10 P.M., 102½°.

On the morning of the 31st the temperature at eight o'clock was 103¼°; at 3 P.M., 102½°, respiration 36, pulse 120, and at eight P.M. the temperature was 103½°. I used the battery with the induced current, placing the positive pole over the lumbar region, and the negative pole over the hypogastrium, at three, six, and eight P.M., and for twenty minutes each time. During the day the patient lay prone, with the head thrown back.

At 11 P.M. the boy died without a struggle. The patient's mind had been clear from the commencement of the disease till death, save only a dulness of perception during the last twenty-four hours, due solely to exhaustion; he had no convulsions; there was no coma. From the 22d of January till his death, on the 31st, there was not secreted a half-ounce of urine altogether. As before stated, the catheter was passed daily, and every precaution taken to verify the abolition of the kidney's function. There was no œdema of the connective tissues, nor was there any effusion into any of the serous cavities. This latter condition can be accounted for by the persistent catharsis and diaphoresis induced. The exhalations from the body, however, had not the slightest urinous odor.

On the first of February, the day succeeding death, the abdomen was opened. The peritoneal cavity contained only the normal amount of serum. The intestines were distended with gas. The bladder was shrunken to the size of a small English walnut, and hard to the feel like the uterus. The kidneys were enlarged from two to three times their natural size, and no appreciable difference the right from the left. On cutting through their capsules a dark brownish liquid gushed forth, the liquid having no odor of urine. This liquid separated the capsule from the cortex by a perceptible interval. The capsule was entirely free save at one or two points, where it was bound down by inflammatory adhesions, and an attempt to peel it off at these points resulted in tearing away the substance of the cortex. The surface of the cortex showed numerous bright red points between which were whitish areas of suppurating and necrosed tissue. On cutting into the parenchyma, the pyramids were found nearly normal, but the cortical portion was dotted throughout with innumerable minute points of suppuration. Numerous infarctions from three to five lines in diameter were found, and in the bodies of some of these a bright red dot, as of an obstructed blood-vessel (thrombus). Around these infarctions, and around the bases of the pyramids (the arterial arcades), were white margins of suppuration, a line in width. The kidneys were such as are pathologically termed "surgical kidney," as found after death from pyæmia, or the urethral fever following urethrotomy, differing only in this; the suppurative process was diffused throughout the cortical substance of the kidneys, instead of being limited to portions of both organs. By the microscope, much of the kidney structure showed no traces of the uriniferous tubules, and the tubules, where existing, were found to have undergone fatty degeneration of their epithelial cells.

225 West Twenty-third Street.

Progress of Medical Science.

The Cure of Cancer by Radical Operations.—In the *Deutsche Zeitschrift für Chirurgie* (vol. xiii., p. 134–166) Prof. Kocher, of Berne, publishes a report of twenty-nine operations for cancer. Five of these were partial pharyngotomies, fourteen were cases of excision of the tongue, and ten were cases of rectal excision. Four cases terminated fatally, three in consequence of septic processes, and one owing to accidental hemorrhage. Of the remaining twenty-five, nine may be looked upon as radically cured.

Kocher's method for the extirpation of the pharynx consists of a combination of the methods of Langenbeck and Gussenbauer. He favors extensive cutaneous incisions. Crico-tracheotomy is a necessary preliminary operation. In two cases Kocher secured an efficacious "tamponade" of the trachea by introducing, during profound anæsthesia, a suitable carbolized sponge into the larynx. The incision which he practises is an angular one, and proportionate in its extent to the amount of glandular participation in the morbid growth. He begins his cut in the median line, or directly below the angle of the mouth at the maxillary margin, and extends it down to the hyoid bone, and thence backward to the anterior border of the sterno-mastoid muscle. From this point he again proceeds upward along the posterior border of the ramus of the inferior maxillary as high as the pinna of the ear, and downward as far as the larynx. This flap is then turned back and temporarily fastened by suture to the facial skin. Now the large vessels are found by preparation along the anterior border of the exposed sterno-mastoid; then he works his way to the great cornu of the hyoid bone, and along the anterior belly of the digastric muscle to the margin of the maxillary bone, and backward to the angle of the jaw. The lingual and facial arteries must be ligatured, of course. Now the larynx is filled with a tampon. After this, he finds his way through the mylo-hyoid muscle on the inner side of the maxilla to the mucous membrane, which is incised at this point. The finger can now be readily introduced into the mouth and pharynx, and the exact limits of the cancerous tumor ascertained. The operation is then continued along the hyoid bone, and proceeds thence to the tongue. The lateral and posterior pharyngeal walls are easily separated from below, whereas the soft palate can be reached from the buccal cavity. Antiseptic dressings are strictly enforced. The same Listerian rigidity is applied to the excision of the tongue and operations on the rectum. As a preparatory treatment for rectal operations Kocher allows only fluid food for two weeks before an operation, and also insists on daily irrigations of the rectum during this time. The irrigations immediately preceding the operation are made with borated or salicylated water.—*Centralbl. für Chir.*, August 14, 1880.

An Epidemic of Favus Affecting Simultaneously Cattle and Children.—Dr. Gigard reports the occurrence of this epidemic in a village called Nantoin, in the Canton Côte Saint André. Porrigo favosa had existed for several years in the village, but the inhabitants had been heedless of its presence. Many cows were suddenly affected, and at the same time the disease manifested itself among the children. The original culprit, according to the writer, was a calf, which in a somewhat roundabout way communicated the disease to the village cows, and hence to the children.—*Lyon médical*, Aug. 15, 1880.

Treatment of Nasal Polypi by Injections of Chloride of Zinc.—The parenchymatous injection of aqueous solutions of chloride of zinc has been successfully tried by Dr. Ingels (*Annales et bul. de la Soc. de Méd. de Gand*, July, 1880), in cases of nasal and naso-pharyngeal polypi. After alluding to Dr. Barthelemy's recent experience in a case of this kind, the writer communicates his own observations, three in number. The first case related was that of a lady, sixty-six years of age, who had suffered for many years from the presence of a naso-pharyngeal polypus of the fibroid variety. The senses of taste and smell were quite abolished, and her respiration was embarrassed. Previous attempts at operative treatment had invariably been the occasion of alarming hemorrhage. A final examination, in consultation with a colleague, revealed a gangrenous patch upon the tumor, just behind the velum palati. It was therefore determined to assist the process which nature had seemed to indicate, and for this purpose a saturated aqueous solution of chloride of zinc was injected, by means of a suitable hypodermic syringe. Similar injections were repeated at intervals of two weeks, and numerous eschars were thus formed. The detachment of these produced a palpable diminution in the size of the tumor. It was also attacked from the nasal openings, and here, also, good results were obtained. The second case passed from under Ingels' observation before definite results of the injections, only two in number, could be ascertained. This patient had complained of much pain after each injection, and it was probably owing to this circumstance that he failed to reappear. The last case, showing the most complete success, was that of a strong man, about thirty years old. This case, however, also demonstrated that these parenchymatous injections are by no means entirely harmless, for immediately after introduction of the fluid, the man had a severe and prolonged attack of syncope His complete recovery from all untoward symptoms only took place on the third day after the operation. A cyanotic patch which had formed on his forehead remained even some time longer than this. Dr. Ingels explains these manifestations by an assumption of extreme vascularity in the tumor, and by the direct entrance of the chloride of zinc solution into an engorged vessel. The blue spot on the forehead would thus be the result of impeded venous return, due to the presence of an obstructing clot.

A New Method for the Operative Treatment of Prolapsus Ani.—Prof. Kehrer, of Giessen, Germany, has devised a new method for the treatment of prolapsus ani, and reports two successful cases with the same. After briefly alluding to the ordinary methods now in vogue, and commenting upon their frequent inefficiency, he proceeds to explain how he was led to attempt the new method. This was by the simple consideration of a rubber ring, which, owing to frequent over-distention, has ceased to act in a proper manner. If a knot be tied into such a ring, or if a loop of it be secured by a string, its former action will be restored. This simple principle he applied to the over-distended sphincter ani in cases of prolapse. That is, he folds together a portion of the sphincter, and after excision of its mucous covering secures the folds by means of a firm suture. Thus a portion of the ring is eliminated, and the calibre narrowed correspondingly. In the two cases which were subjected to this operation, a speedy cure took place.—*Deut. med. Woch.*, Aug. 14, 1880.

On Papaïne.—The digestive ferment of *carica papaya* has received this name from Bouchut and Wurtz. The latter contributes to our knowledge of the drug in a communication to the "*Répertoire de pharmacie*." He finds that it possesses a composition of an albuminoid substance. When purified by the subacetate of lead, the following additional qualities were ascertained. It is freely soluble in water, dissolving in less than its own weight of that fluid, just like gum. When shaken, this fluid forms an abundant froth. Ordinary impure papaïne, when dissolved in water, sometimes leaves an insoluble white residue. On boiling, the clear solution becomes turbid, but does not coagulate like albumen. When allowed to stand it also becomes turbid, owing to the formation of low organisms. Hydrochloric acid causes an abundant precipitate, which redissolves in an excess of the acid. Nitric acid forms a precipitate of yellowish flakes, which likewise redissolves in an excess of acid. Ordinary phosphoric acid and acetic acid cause no precipitate; but the metaphosphoric acid does. Other reactions are given, which all tend to show the albuminoid nature of this substance.

Its action on albuminoid bodies is similar to that of the pancreatic ferment called trypsine. It rapidly dissolves large quantities of fibrin, even in fluids of neutral reaction. M. Wurtz has also been able to extract from the juice of *carica papaya* a saponifiable greasy substance, and a crystallizable nitrogenous principle, which remained undissolved in the fluid from which the impure papaïne was precipitated—*Annales et bull. de la Soc. Méd. de Gand*, July, 1880.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., Editor.

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MEDICINE IN THE UNITED STATES, AS OTHERS SEE IT.

In a book recently published in London, entitled "Medical Education and Practice in All Parts of the World," we get a very candid, though not entirely accurate picture, of the condition of medicine in this country. The opinion of the author, Dr. Hardwicke, is that medicine here has been in a most scandalous condition, from which it is only now beginning to emerge. He seems to think, and no doubt there are many with him, that up to the past summer bogus colleges in the United States were as thick as atmospheric germs in the imagination of a Listerite, and were quite as active in producing an ichorous discharge of quacks and impostors. In speaking of the recent decree of the French government requiring all foreign medical men to pass an examination before receiving license to practise in France, he says: "All foreign physicians, whether graduates of the bogus universities with which, until lately, the United States abounded, or of such first-class universities as exist in Europe, were included in the sweeping fiat" of the government. And further, in introducing the subject of medical education and practice in this country, he says: "Until lately the condition of medicine in the United States was very bad indeed. Universities were established all over the country, and degrees sold in open day with the coolest effrontery." The author then devotes seven pages to the recent exposure of the Philadelphia bogus colleges, going into the minutest particulars of the downfall of those lamented institutions. There is no doubt that Dr. Hardwicke thinks medicine in the United States, prior to the misfortune of "Dr." Buchanan, to have been clouded in worse than Cimmerian gloom. Things have been and are bad enough with us, but we feel inclined to resent the ignorance which would spread the idea that this is the home of diploma-shops, and that bogus medical colleges are here the rule.

The diploma traffic in the United States has mainly been confined to two cities, Philadelphia and Cincinnati. There have been some degrees sold in this and other cities, but not many. On the other hand, the cities of Germany have done considerable business in this line also. There are very good reasons for believing that just now the fatherland is manufacturing more degrees than are turned out in America. We trust that Dr. Hardwicke, in any future editions of his valuable work, will give less prominence to what has been, after all, the smallest, because the most easily remedied, of our educational evils.

In the subsequent details which he gives regarding medicine in the United States, some very instructive facts may be found. The author states that, in going over the various statistics regarding medical education and practice, he could make this generalization: in proportion to the height of the educational standard at the universities and medical boards will, as a rule, be found to correspond the stringency of the laws affecting the medical profession.

Thus, in countries or states where the medical examinations are incomprehensive and irregularly conducted, the medical laws are elastic, defective, or absent. When medical education is lax, medical legislation is deficient and quacks abound.

According to Dr. Hardwicke's rule, then, the unhappy condition of medicine in this country is due, primarily, to the weakness of the medical colleges. The states which he enumerates as having no medical laws whatever are: Arkansas, Colorado, Connecticut, Indiana (which state is stigmatized as particularly bad), Iowa, Kansas, Mississippi, Minnesota, North Carolina, Oregon, Tennessee, Texas, Vermont, and West Virginia, fourteen in all. In addition to to this must be included the District of Columbia and all the Territories.

In many other states the laws regulating medicine are not much better than none at all. In Maine, for example, a student can hardly graduate without breaking the statutes because of their contradictions.

The proposition that bad medical colleges and licensing boards are the chief source of the evils in medical practice must be applied with considerable reservation to the United States. It would be worth while, however, for our medical teachers to ponder over the statement that bad medical colleges beget bad medical legislation, and that begets quackery.

PSYCHOLOGY AND THE BABY—THE DEVELOPMENT OF MIND IN THE INFANT.

Most of the studies that have been made into the constitution of the human mind have been directed to that of adults, either sane or insane. Of late some investigation has been made into the intelligence of the lower animals. A recent work of a thousand pages, on "Mind in the Lower Animals," by Dr. W. L. Lindsay, gives evidence that we will have, some time, a comparative psychology.

But perhaps the most fruitful field for psychological investigation is that of infants and children. A recent writer in a contemporary review, commenting on this, says: "The psychological analysis of a single child is worth more than a whole menagerie; he who knows well the mind of a little boy or girl is already an expert in psychology." This is a field, however, which has been least of all investigated, though so close at hand that every parent can be something of a psychologist if he choose. Some indication of what a little careful observation can bring out is found in an article which has recently appeared from the pen of Professor W. Preyer, of Jena. We propose to give a few of the observations which he has made. If the facts are not all new, the professor's method of studying babies will, at least, prove novel to many.

This study must begin, he says, with the observation of the movements and sensations of the child; we must then note the development of the different senses, the formation of speech, and the effect of all these things in awakening the intelligence of the child. Movements begin first; they occur *in utero;* they are not reflex from peripheral sensations, but are the evidence of a superfluous nervous and muscular energy.

The first manifestation of voluntary motion occurs when the infant begins to hold up its head. Attempts to do this were noticed in the fourteenth week, and after four months the head was kept well balanced. Next after the head, the upper part of the body was balanced; and the full power to sit up was acquired at the tenth month.

Ability to stand was, in the cases studied by Prof. Preyer, gained suddenly at the end of the first year. The movement of grasping sometimes takes place at a bound. A pencil is grasped mechanically, when put in the hand, in the first quarter-year, but the action is wholly reflex. The first voluntary attempt to take hold of an object was observed in the seventeenth week. This first grasping was at once followed by many others of similar character. The child does not show self-consciousness, a knowledge of itself as an independent person, until after the fifth quarter-year.

The sensibility of the skin of a new-born child is very low. We may stick needles into its nose, lips, or hands, without its giving any sign of discomfort. The eyes of new-born children close, when they are touched, more slowly than at a later period, and they do not close at all when wet in the bath. An increase of sensibility may be noticed in one or two days after birth. Prof. Kussmaul has shown that all new-born children can distinguish strong tastes. Taste, indeed, seems to be the first sense after that of sight, which affords clear perceptions to the baby. It is the first which gives occasion for the exercise of the faculties of memory and judgment. Infants distinguish odors very early, but to what extent has not been ascertained. Some animals born blind are guided to their food—the mother's milk—by this sense. Some odors, as tobacco-smoke, have been found unpleasant to young animals; others, as that of camphor, agreeable.

All infants are deaf at birth because the outer ear is as yet closed, and there is no air in the middle ear. A response to a strong sound is observed, at the earliest, in six hours, but often, not for a day or two. The awakening of the sense may be observed by the irregular muscular movements and blinking which a loud noise occasions. No other organ contributes so much as the ear to the intellectual development of the child. This is shown by the intellectual backwardness of those born deaf compared with those born blind. The sense of hearing becomes early developed, so that the child soon distinguishes the different tones of those about him.

Light is at first unpleasant, and the infant shuts his eyes when brought to it. Brightness and darkness can alone be distinguished. The motions of the eyes are wholly unregulated. There is no real symmetry of movement before the first six days. The first perceptions are those of light. The child turns his head to the window within the first week. It is three weeks, however, before the eyes will follow a light that is moved before it.

The stupid expression on the child's face does not leave it until the second quarter-year. The face then begins to grow more human and spirited as the power is gained of regarding objects with a steady, independent look. The faculty of accommodation is then developing. The power to distinguish colors follows that of intelligent attention. Children all prefer light and bright colors. But they can rarely distinguish them by name before the beginning of the third year.

The recognition of form, size, and distance, comes on slowly. It must be helped by the sense of touch. In the third year children will show ignorance of size, and inappreciation of distance. In the first month no notice is taken of the swiftest approach of a person's hand to the mouth, and the act of blinking, which is evidently acquired, does not take place till the third month.

The study of the growth of the faculty of speech has been pursued by Prof. Preyer with especial industry. He has set down upon paper every expression and sound that could be represented in writing, uttered by a child during its first two years. He informs us that at first only the vowels are heard. Even in the first five weeks, however, these sounds are so diversified as to express many different feelings of the child. Thus, according to Prof. Preyer, the periodically broken cry, with knit eyes, denotes hunger; the continuous whine, cold; the high, penetrating tone expresses pain. Prof. Preyer heard the consonant *m* during the seventh week; in the seventh month the consonants *m, b, d, n, r*, and rarely *g, h*, and *k* were distinguished. Very imperfect imitations of sounds were heard in the sixth month, and at this time voices began to be distinguished by the child. Great progress is made in the imitation of sounds after the third half-year, and the powers of articulation become well developed by the fourth half-year.

These are some of the observations that are given us. Very many of the professor's statements are based on but few observations, and it is very evident that there is a wide field for further study, and much that can be learned which will be of value in the education of children as well as to pure psychology. It might be in the interests of science to commend matrimony to young men ambitious of psychological study.

Reviews and Notices of Books.

CHIRURGIE ANTISEPTIQUE. Principes, Modes d'Application et Résultats du Pansement de Lister. Par le Dr. Just Lucas-Championnière. Deuxième édition complètement refondue avec 15 figures dans le texte. Paris: J. B. Baillière et Fils. 1880.

ANTISEPTIC SURGERY. The Principles, Modes of Application, and Results of the Dressing of Lister. By Dr. Lucas-Championnière.

DR. C. is the editor-in-chief of the *Journal de médecine et de chirurgie pratiques*, and also surgeon to the Maternité of the Cochin Hospital. He has had a wide personal experience, and, being a diligent worker and close observer, his opinions are well worthy an attentive consideration. While we cannot accept all his antiseptic teachings, we have, nevertheless, read with interest the work which embodies them. Divested of some of its Gallic enthusiastic colorings, the book before us is an earnest plea for the universal adoption of "antiseptic," even if not strictly Listerian, dressings.

The work is appropriately inscribed to Mr. Joseph Lister, and the author "hopes that it will enable its readers to realize the greatness of the progress which surgery owes to him" (*i.e.*, Lister). In the introduction the writer points out how profoundly the surgical methods of the present day have been modified and transformed by the progress of antiseptic doctrines. After allusion to the reception which Lister's method was accorded in various countries, we are told that in France at least there is now no prospect of its being superseded by other methods. "Purulent infection has vanished as a complication to be dreaded wherever this method is followed. Erysipelas has become a rarity. Astonishing regularity of reparation, rapidity of the healing process —two phenomena of the greatest importance—are no longer exceptional occurrences; they take place commonly —yes, constantly." These are almost literally the words of the enthusiastic Listerite, and similar passages abound throughout the volume.

The antiseptic method is so well known here that it seems needless to follow the author in his description of all its details. We will, however, indicate the contents of each chapter, thus enabling the reader to judge of the extent and scope of the volume, and the thoroughness with which the subject is handled. There are thirty-four chapters. Of these the first deals with the past progress of surgery, the methods now in use to defend wounds from the injurious effects of atmospheric contact, occlusion dressings and antisepsis in ancient and modern times, and the method of Lister.

Chapter II. contains an account of the theoretical views which form the foundation of the use of antiseptic dressings. Of course, the "germ theory" here receives a goodly share of the author's attention. On page 23 we are plainly told that, "in order to succeed, the surgeon must be perfectly convinced of the truth of the germ theory." Now, it so happens that we are acquainted with many surgeons who are by no means "perfectly convinced," and whose results would creditably compare with those obtained by Dr. Lucas-Championnière. It seems a difficult matter to reconcile this apparent discrepancy with perfect credence of the author's emphatic statement. The following chapter gives a very satisfactory description of the various details essential to the "only original, true" Lister dressing. We are taught how to destroy germs before the operation, during its progress, and after the operation, the only wonder being that, after this wholesale germicidal onslaught, there are any surviving germs left to threaten the life of the next patient.

In the next chapter we receive instruction concerning the management of "old wounds, with or without fistulæ." We are also told how to apply antiseptics to "wounds in the vicinity of natural openings." An aqueous solution of chloride of zinc is recommended for the latter purpose.

"Boracic acid and non-irritant dressings, ununited wounds," forms the title of Chapter V. Boracic acid, we learn, may be advantageously substituted for carbolic acid in cases where the "cutaneous susceptibility" to the latter is inconveniently great.

Then comes a chapter explanatory of the proper time when to substitute ordinary for antiseptic dressings. We know all about that here. In the seventh chapter "sutures and the reunion of wounds, superficial and deep sutures, compression by carbolized sponges," are successively disposed of.

The subject of drainage is next considered. This, we are not surprised to hear, plays a "rôle capital." We are surprised to hear, however, that "it is the surgeon's object to reduce drainage to a minimum" (p. 88). Now, hitherto it was our belief that if there was one thing more useful than another in the antiseptic method, this was thorough and prolonged drainage. We almost fear that our previous belief will not be materially altered by Dr. C.'s dictum.

Chapter IX. is on antiseptic pulverization (*i.e.*, the spray). From the illustrations in this part of the work, we infer that the American atomizers are somewhat less complicated and formidable in appearance than the French apparatus; and perhaps they will be found equally serviceable, barring a certain mysterious tendency to occasionally explode without previous notice, though even this unexplained leaning toward explosiveness is rapidly becoming traditional.

"Catgut and its uses, ligature, drainage, suture, osseous tampons," are dealt with in the next chapter, and the author then turns to "the results of the method as regards the phenomena of reparation," discussing at some length the "absence of suppuration." He also briefly refers to the commencement of his experiments in this direction, which showed the absence of germs in all the antiseptic dressings submitted to his examination. On page 129 we find an incomplete list of French surgeons, who follow with more or less strictness the antiseptic method. Suyon, Verneuil, Panas, De Saint Germain, Le Dentu, Terrier, Perrier, are the names of those cited.

The most important part of Chapter XII. contains statistics with regard to some of the earlier antiseptic operations. Lister, Saxtorph, and Volkmann are cited in this connection.

The following chapters are devoted to a consideration of the special methods to be employed in certain operations. Autoplasties and the extirpation of tumors situated in the soft parts are treated of in Chapter XIII.

Compound fractures and wounds resulting from firearms come next; then follow osteotomy, rachitic curvatures, genu valgum, articular fractures, and resections for pseudarthroses.

In Chapter XVI. amputations and exarticulations are discussed. Then come "accidental and surgical wounds of the joints," followed by "articular resections."

Chapter XIX. is on abdominal surgery—strangulated hernia, laparotomy, ovariotomy, Cesarean section and the operation of Porro, finally, hepatic cysts, are each in turn considered. Of course all these operations are described only in so far as it is necessary to explain the manner in which Listerism is carried out in connection with them.

The following chapter contains an account of antiseptic surgery in relation to operations on the female organs of generation. Nine pages of this chapter are devoted to the subject of "*accouchement aseptique*," the author strongly condemning repeated carbolic injections immediately after delivery. He insists, however, with equal emphasis, on carbolized "hands" on the part of the accoucheur, and "*l'antiseptie de tout le personnel qui entoure les accouchées.*"

Ligation of the blood-vessels, the radical cure of varicosities, and varicocele, are the subjects of Chapter XXI. Then comes the "treatment of abscess—acute and chronic," followed by a chapter on "empyema." Next we find a brief reference to operations on the testicle, and the radical cure of hydrocele by Volkmann's method. Operations on tendons are then alluded to, also trepanation, and then comes Chapter XXVII., with a short but good account of the "treatment of ulcers by cutaneous transplantations."

Ocular surgery has a chapter by itself, and this is followed by a statement of the good "influence of the antiseptic method on the healthiness of hospitals."

In Chapter XXX., carbolic acid poisoning is considered, the writer making rather light of the toxic properties of phenol. Nussbaum's potion, supposed to be antidotal to the acid, is given as follows:

℞. Sulphate of soda	5.0
Water	150.0
Syrup of raspberries	25.0

M. S.—Two tablespoonfuls every two hours.

Naturally enough, a work of this kind would be incomplete without some reference to the "objections to and disadvantages of the antiseptic method." Accordingly, we find Chapter XXXI. devoted entirely to this purpose, nor need it surprise us to find an enthusiastic Listerite inclined to judge leniently the various faults with which the method has been reproached.

Chapter XXXII. tells us how to act in cases when the essentials of Listerism are not on hand.

The last chapter but one contains a detailed enumeration of everything that is needful to properly effect the various antiseptic dressings, and the concluding chapter is an incomplete "bibliographical index."

The Transactions of the Medical Society of the State of New York for 1880. Syracuse, N. Y.: The Standard Printing Company.

The volume contains 682 pages, of which sixty are occupied by the proceedings of the annual meeting, forty by communications on various medical, surgical, and hygienic topics, over one hundred by the lists of the state and county medical societies, and the remainder by an appendix containing the bylaws of the society, the system of medical ethics, and a compilation of the various state laws relating to medical matters that have been passed since 1806. The appendix is a valuable contribution for reference. The usual care displayed by the secretary of the society is manifest throughout the volume, which reflects credit upon both the Committee of Publication and the publishers. It will make an indispensable addition to the library of every medical man who wishes to keep apace with the progress of one of the largest and most active medical societies in this country. It is true that many, if not all, of the papers have appeared in the various medical journals of this and other states; but that fact, instead of detracting from, should enhance the intrinsic value of the volume, because it shows that the communications are of a high order, and well worthy of preservation in book form.

Address Delivered before the New Hampshire Medical Society, on the Etiology, Nature, Causes, etc., of Diphtheria. By T. J. W. Pray, M.D., President, June, 1880.

This address is a very full and exhaustive discussion of the subject of diphtheria. On all the mooted points regarding this disease, the writer shows thorough information and excellent judgment. He inclines to the belief that most cases of croup are diphtheritic processes; he doubts the local and bacterial origin of the disease; and he classes diphtheria among filth diseases. In treatment, no especial plan is advocated, but the various methods employed by the highest authorities are given. The monograph will be found useful for study or reference.

On the Affections of the Middle Ear During the Early Stages of Syphilis. By F. R. Sturgis, M.D.

Three cases are related, illustrating the way in which secondary syphilis sometimes affects the middle ear. The diagnostic points in this class of cases, Dr. Sturgis believes to be absence of acute inflammation and the infiltrated condition of the tympanum.

Pregnancy Vomiting. By J. Marion Sims, M.D., LL.D. Reprinted from the *Archives of Medicine*.

Dr. Sims writes on the above subject with two objects: he relates a case of pregnancy vomiting in which a resort to Copeman's method produced a miscarriage, this being the first reported instance of its so doing. He also gives the full details of a case which came under his charge in Paris eighteen years ago, and regarding which he has since been much misrepresented in Parisian medical and social circles. Dr. Sims gives an endorsement of the efficacy of Copeman's, Jones's and Grailly-Hewitt's methods of treating pregnancy vomiting, when they are properly applied.

The Mechanical Treatment of the More Common Abnormal Conditions of the Foot. By Dr. Charles Frederick Stillman.

This small pamphlet contains a description of the condition and indications for treatment in weak ankles, inverted feet, and talipes varus. For each of these affections Dr. Stillman has devised some special mechanical appliances for which he claims superior advantages.

The Yellow Fever Quarantine of the Future, based upon the Portability of Atmospheric Germs, and the Non-Contagiousness of the Disease. Read at the Seventh Annual Meeting of the American Public Health Association, November 20, 1879. By Henry Fraser Campbell, A.M., M.D.

Dr. Campbell argues against the present system of coast and inland quarantine as being unnecessarily clumsy, oppressive, and inefficient. He presents a simpler plan, based on the assumptions that yellow fever is an exotic disease and not contagious, in the ordinary way. Dr. Campbell's arguments are well stated, and his plans for quarantine have received endorsement from experienced health officers. So far, however, as it depends on the assumption that yellow fever is purely an *exotic* disease, he will not find medical opinion going heartily with him.

First Decennial Report of the Manhattan Eye and Ear Hospital. October, 1879.

The Manhattan Eye and Ear Hospital has had the best talent of the city on its medical staff, and it has done excellent work during the past ten years. It is exceptionally fortunate in having a large number of its medical officers on the government board. The hospital received a gift of $25,000 from Hon. E. D. Morgan last spring. In April, it began to erect a $90,000 building on Park Avenue. We sincerely trust that the funds for the completion of the structure may be supplied. Nine thousand dollars have been contributed since the work began.

Cases of Leucocythemia. By R. P. Howard, M.D. Reprinted from Montreal General Hospital Reports. 1880.

The author relates four cases of leucocythemia which recently came under his notice. Post-mortem and microscopical examinations were made in each case. The marrow of the long bones was also examined, and in two cases presented evidences of hyperplasia, such as is asserted by Neumann, Waldeyer, and others to be characteristic of a certain variety (the myelogenous) of leucocythemia. Dr. Howard discusses very fully this question of the possibility of a myelogenous leucocythemia, and shows that the evidence, so far, is against it. The cases related in the pamphlet before us are admirably worked up and make a valuable contribution to the literature of leucocythemia.

Report on Outbreak of Enteric Fever at Possilpark. By James Christie, A.M., M.D.

The point of interest and importance in this report is given on page 16: "By this outbreak," says Dr. Christie, "we had an absolute demonstration that milk acts as a medium for the communication of the infective *virus* of enteric fever; that the infective *virus*, if present in soiled clothing, may gain access to milk through washing operations in a dairy farm; and that the period of incubation of enteric fever is fourteen or fifteen days." The details of the investigation which led to this conclusion have chiefly a local interest.

Diagnosis of Malignant Tumors of the Upper Jaw. By L. McLane Tiffany, M.D.

In elucidation of the above subject three cases are related, and the operations for the removal of the tumors described. In one case, preliminary laryngo-tracheotomy with Paquelin's thermo-cautery was employed, and the operator speaks highly of the additional facility with which his work was done.

A Case of Unilateral Excision of the Larynx, Hyoid Bone, and Base of the Tongue. By Dr. A. G. Gerster.

The operation here detailed was upon a man aged fifty, suffering from a sarcomatous tumor. This involved the entire right wall of the pharynx, the base of the tongue on the same side, and the tissues of the corresponding side of the larynx, including the epiglottis. The removal of the growth was effected by first removing half the larynx and hyoid bone. The operation was carried through without any trouble or accident, tracheotomy having been first performed. The patient, on recovery, was able to talk in a hoarse voice and to swallow. The account of the operation will be instructive to surgeons who have occasion to do anything of a similar character.

History of United States Marine Hospital Service. By John B. Hamilton, M.D., Supervising Surgeon-General.

This history is a reprint from Appleton's Annual Cyclopædia for 1879. It is a narrative of the gradual growth of the Marine Hospital Service from the year of its creation, 1798, to the present time. Much labor and research have evidently been expended in making the history a full and accurate one.

The Ophthalmic Use of Quinine, and its Therapeutic Action. By A. Sibley Campbell, M.D., Augusta, Ga.

Dr. Campbell's view of the therapeutic action of quinine is, that it is a vascular tonic, restoring the tone of the vessels and enabling them to contract. In this way it dispels blood-stasis and may prevent inflammations. It is particularly valuable after operations on the eye, combined with topical applications of atropia and ergot. Dr. Campbell's use of quinine is not new, and his confidence in it is overrated.

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Asylum Mortality and Non-Restraint.—The influence of modern improvements in asylums and in the treatment of the insane, in diminishing the mortality and prolonging the lives of lunatics, is (says the *British Medical Journal*) very clearly brought out by Dr. Cassidy, in the recently issued annual report of the County Asylum of Lancaster. The average annual death-rate in that institution in the decennium 1829 to 1839 was 21.58 per cent. of the average numbers resident. From 1839 to 1849 it was 11.24 per cent.; from 1849 to 1859 it was 9.89 per cent.; from 1859 to 1869 it was 8.93 per cent; and from 1869 to 1879 it was 7.62 per cent. The first great reduction took place at the period when Mr. Gaskill abolished the restraint system. Dr. Cassidy's statistics should be well pondered by those reactionists who now suggest the reintroduction of restraint into asylums.

Reports of Societies.

THE AMERICAN GYNECOLOGICAL SOCIETY.

Fifth Annual Meeting, held in Cincinnati, September 1st, 2d, and 3d, 1880.

Wednesday, September 1st—First Day—Morning Session.

Pursuant to adjournment, the Society convened in the city of Cincinnati, on the first day of September, and was called to order at 10 A.M., by the President, Dr. J. Marion Sims, of New York.

The following Fellows responded to the roll-call: Drs. Fordyce Barker, W. H. Byford, S. C. Busey, A. Dunlap, G. J. Engelmann, G. H. Lyman, T. A. Reamy, A. R. Jackson, R. S. Sutton, Robert Battey, J. R. Chadwick, H. F. Campbell, T. M. Drysdale, W. T. Howard, T. Parvin, J. C. Reeve, J. M. Sims, H. P. C. Wilson, and J. W. Underhill.

ADDRESS OF WELCOME.

After the calling of the roll, Dr. T. A. Reamy bade the Fellows and the invited guests welcome to the grasp of the hands, the friendship of the hearts, and the hospitalities of the homes of the medical profession of Cincinnati.

MEMBERS BY INVITATION.

The following gentlemen were, on nomination by the Council, invited by vote to participate in the discussions during the sessions of the Society: W. W. Dawson, W. H. H. Mussey, Thomas Wood, J. H. Tate, W. H. Taylor, J. Trush, C. D. Palmer, John Murphy, David Judkins, James T. Wittaker, A. J. Miles, William Corson, A. E. Dandridge, C. O. Wright, W. T. Brown, A. T. Keyt, P. S. Connor, and G. Brahl, of Cincinnati; John Henderson, of Covington, Ky.; A. F. Erich, of Baltimore; Chas. Sheppard, of Grand Rapids, Mich.; E. C. Gehrung, of St. Louis; and G. W. H. Kemper, of Muncie, Ind.

The first paper was read by Dr. Robert Battey, of Rome, Ga., and entitled

WHAT IS THE PROPER FIELD FOR BATTEY'S OPERATIONS?

The author took the same position he took when, in 1872, he commenced the operation, namely, that the operation was never to be one of election.

In deciding whether or not he should advise the operation he asked himself three questions.

"1. Is this a grave case?

"2. Is it a case incurable by other known resources of medical and surgical art? and

"3. Is it curable by the menopause?"

If all were satisfactorily answered in the affirmative, he regarded the case as a proper one for the operation known as Battey's. If either question could not be answered satisfactorily, he regarded the case as one in which the operation was not justifiable.

TWO CASES OF ANTERIOR DISPLACEMENT OF THE OVARY SIMULATING INTERNAL INGUINAL HERNIA—BATTEY'S OPERATION

was the title of the next paper, which was read by Dr. G. J. Engelmann, of St. Louis.

Within a short time he had observed two cases of anterior displacement of the ovary that simulated inguinal hernia; in one the ovary was removed, in the other not, on account of the approach of the menopause. In one case, therefore, the menopause was produced artificially, in the other it was left to nature. In both cases, diagnosis, prior to Dr. Engelmann's treatment of inguinal hernia had been made, and a truss had been applied.

In the first of Dr. Engelmann's cases it seemed that the menopause was established by the removal of one ovary, although that point could not yet be absolutely determined, because of the recent date of the operation. The ovary was not enlarged. The right ovary was not removed, and Dr. E. regretted that he had allowed it to remain, because it was possible that the nervous symptoms that still continued might have been checked by so doing. The woman recovered without an unfavorable symptom. She had menstruated twice since the operation; once five weeks after, and once at a subsequent interval of six weeks, but the discharge was scanty.

The discussion on the papers by Dr. Battey and Dr. Engelmann was opened by Dr. Fordyce Barker, of New York, who remarked, with regard to anterior displacement of ovaries, that he had met with three cases. For himself, he could not conceive the possibility of any fall or shock of the kind mentioned, producing displacement of an ovary, and he questioned whether the displacement was not a congenital one, and that the fall aroused a congestion or subacute inflammation that became exaggerated extremely at the time of menstruation.

With reference to the therapeutical study of the subject, in one of the cases he placed the patient upon the use of bromide of potash and hyoscyamia, with beneficial results.

Dr. Barker then related the history of a case that illustrated how severely the nervous system might be affected by disturbances of the ovaries.

Dr. H. P. C. Wilson, of Baltimore, regarded Battey's as one of the most growing surgical operations of the present century. He was particularly struck with the additional class of cases in which it was recommended, namely, certain cases of amenorrhœa.

Dr. W. H. Byford, of Chicago, related the history of a case that illustrated the effect produced upon a fibroid of the uterus by the removal of the ovaries. The case was one in which Dr. Trenholme, of Canada, removed both ovaries for the cure of a uterine fibroid and reported as entirely successful. The patient is now under Dr. Byford's care in the Woman's Hospital of the State of Illinois, at Chicago, and the tumor still remains in the situation as described by Dr. Trenholme before the operation. He believed that, in all cases in which the operation was required, the ovaries are diseased. The discussion was continued by Dr. Dunlap, of Ohio; the President; Dr. Wood, of Cincinnati; Dr. Drysdale, of Philadelphia; and Dr. Jackson, of Chicago; all favoring the operation in proper cases.

The President announced as

The Committee on Nominations: Drs. F. Barker, of New York; G. H. Lyman, of Boston; and H. P. C. Wilson, of Baltimore; and as

The Auditing Committee: Drs. W. H. Byford, of Chicago; and R. S. Sutton, of Pittsburgh.

First Day—Afternoon Session.

The first paper was read by Dr. H. P. C. Wilson, of Baltimore, and entitled,

OVARIOTOMY COMPLICATED WITH PREGNANCY.

"What shall be done with a large ovarian tumor co-existing with pregnancy? What shall be done when it is a large, simple cyst? And what when it is a compound tumor, solid or fluid?" When the tumor is large and wholly cystic, he had been taught to tap from time to time until pregnancy had terminated, and then perform ovariotomy.

When the tumor was compound and the fluid predominated largely over the solid or semi-solid portion, he had been taught to follow the same plan of treatment.

When the tumor was entirely solid, so that it could not be so reduced in size, ovariotomy or the induction of premature labor were the only resources left when there was no longer room in the abdominal cavity for the pregnant uterus and the ovarian tumor.

From these views Dr. Wilson dissented. If, in a pregnant woman, an ovarian tumor was entirely cystic, he advised removal in preference to repeated tappings. When a compound tumor did not have firm adhesions, he would select ovariotomy rather than repeated tappings for the safety of both the mother and the child.

If, in either of the above conditions, the woman, with one or more tappings, might be successfully carried to the termination of pregnancy, in all probability she would be left in a worse condition for a successful ovariotomy, on account of the adhesions that would probably be originated.

When the tumor was solid or semi-solid, or both, and so large that it did not leave room in the abdomen for both itself and the expanding uterus, tapping was out of the question, and he would perform ovariotomy in preference to inducing premature labor.

Dr. Wilson then gave the history of his case in which the mother recovered, and was subsequently delivered of a healthy child, which was still living.

The paper being before the Society, Dr. A. Dunlap, of Springfield, Ohio, remarked that he had *three* cases in which ovarian disease was complicated with pregnancy, and in *two* cases abortion was produced before ovariotomy was performed, and both patients recovered. He was inclined to believe that abortion was likely to be produced by the ovariotomy and if abortion did occur, the woman would probably die. With reference to adhesions after tapping, he did not regard them as especially unfavorable for ovariotomy. Dr. Dunlap was also opposed to the small incision, even if no adhesions existed, because he believed the great success in ovariotomy depended upon proper cleansing of the abdominal cavity, and in order to do that properly, a free incision was necessary. He favored the production of abortion and the subsequent performing of ovariotomy.

Dr. Jas. R Chadwick, of Boston, spoke of surgical non-interference in these cases, and based his remarks upon three cases that had fallen under his observation during the last winter.

Dr. Robert Battey, of Rome, Ga., referred to four cases in his experience which had been let alone, and all terminated fatally. In three, the symptoms were such as indicated rupture of the ovarian cyst. In the fourth case, abortion was produced, and the woman died a few days subsequently.

Dr. Dunlap remarked that, in cases in which the patient was comfortable, it was well enough to allow her to remain without interference until forced to do so.

Dr. W. H. Byford, of Chicago, referred to two cases in which he had tapped the cyst, in one three, and in the other six or seven times, and carried the woman safely to the termination of pregnancy, both mother and children living. With reference to producing abortion, he believed it to be a mischievous practice.

The President referred to the successful case quoted by Dr. Wilson, and also to a case in which rupture of the cyst occurred, yet the woman went safely to the completion of her pregnancy.

With reference to non-interference, he was satisfied that the ovarian tumor should not be interfered with when simple and not larger than twice the size of the fœtal head; but when they became large, he was satisfied that operative procedure was the safest course to pursue.

The paper was further discussed by Dr. Sutton, of Pittsburg, Dr. Erich, of Baltimore, and Dr. Dawson, of Cincinnati.

UTERINE MASSAGE AS A MEANS OF TREATING CERTAIN FORMS OF ENLARGEMENT,

was the title of a paper then read by Dr. A. Reeves Jackson, of Chicago. It contained an analysis of 277 gynecological cases obtained from hospital and private practice. In 194 there was enlargement of the uterus from various causes, and of those there were 179 in which the enlargement was due to causes other than polypus, sarcoma, and carcinoma, such as sub-involution, hyperplasia, etc., etc.

In each of those 179 cases, almost every variety of treatment that has been devised had been employed, such as astringents, caustics, pessaries, abdominal supporters, hot-water douches, together with such general treatment as seemed appropriate.

The class of cases in which massage was applicable was limited; in some it was positively injurious, and much judgment and tact were necessary in the selection of cases suitable for its employment.

The kind of cases in which it may prove useful was the following: When the uterus was low down, large, tender, spongy, doughy, etc., that condition was usually associated with hyperæmia, and *massage* would be expedient unless contra-indicated by other circumstances.

The histories of several cases were then read, which showed that some of the patients were markedly benefited, others less so, and still others received no benefit whatever from the manipulation.

The paper was discussed by Drs. H. F. Campbell, of Augusta, Ga., and T. A. Reamy, of Cincinnati, who dwelt upon the *modus operandi* of the method.

Dr. J. W. Rosebrugh, of Canada, was then elected an invited guest, after which the Society adjourned to meet at 10 A.M. on Thursday.

Thursday, September 2d—Second Day—Morning Session.

The Society was called to order at 10 A.M. by the President.

The first paper was read by Dr. R. S. Sutton, of Pittsburg, and consisted of the report of

A CASE OF CATALEPTIC CONVULSIONS CURED BY TRACHELORRHAPHY.

Mrs. C., aged thirty-eight years, had borne four children; never miscarried. Her last labor occurred August 19th, 1872. None of her labors could be termed preternatural. Her disease began, as was shown, after a laceration of the cervix uteri.

A very large amount of cicatricial tissue was removed, and the patient made a good recovery.

The paper was discussed by Dr. Wilson, of Baltimore, and the President.

Dr. W. H. Byford, of Chicago, then read a paper entitled

EXTIRPATION OF AN ENCEPHALOID KIDNEY.

The patient was admitted and treated in the Hospital for Women and Children in Chicago, and he was indebted to Dr. Mary H. Thompson, house physician, for the history of the case and the notes subsequent to the operation. A female patient, æt. 39, German, and the mother of six children. The tumor weighed four and a half pounds, and upon microscopical examination by Prof. Danforth, was diagnosticated as encephaloid of the kidney. The patient was discharged in July, 1880, apparently healthy.

The paper was discussed chiefly with reference to differential diagnosis by Drs. Chadwick, of Boston; Jackson, of Chicago; Dunlap, of Springfield, O.; and Drysdale, of Philadelphia.

Dr. H. F. Campbell, of Augusta, Ga., then read a paper on

THE VALUE OF QUININE IN GYNECIC AND OBSTETRIC PRACTICE.

As to the supposed abortional effects of quinine, the author of the paper commenced by saying that, at a period not very remote from the present, the medical journals of this country contained frequent papers discussing the oxytocic properties of quinine. "Abortions, miscarriages, and premature births were strongly charged to its administration." To this opinion in regard to the action of quinine, after an observation of nearly forty years, he conscientiously gave an unconditional denial. Of course he spoke of a judicious and prudent use of the agent.

Instead of withholding quinine, in the fear that it might produce abortion or premature labor, it was to be given conscientiously and in efficient doses, *to prevent abortion;* for, in obviating the paroxysm of malarial fever and its wide-spread perturbations, we brought the woman out of peril, and secured her from many possible calamities; the one to be most dreaded being the superinduced abortion.

Dr. Campbell's paper gave rise to discussion, which was opened by Dr. Fordyce Barker, of New York, who referred to the use of quinine for quickening and rendering more efficient labor pains, without being oxytocic, the influence which it exerted in preventing abortion, and in controlling convulsions dependent upon malarial poisoning.

Dr. Murphy, of Cincinnati, believed that quinine did not excite uterine contraction, hence was not an oxytocic; yet it was a most efficient agent in awakening uterine contractions in certain cases of inertia of the uterus.

The experience of Dr. Reeve, of Dayton, O., upon this point, corresponded with that given by the author of the paper, and the speakers by whom he had been preceded.

The paper was further discussed by Drs. E. C. Gehrung, of St. Louis; J. M. Rosebrugh, of Canada; Bates and T. A. Reamy, of Cincinnati; and W. T. Howard, of Baltimore.

ANNUAL ADDRESS BY THE PRESIDENT.

The hour having arrived, the President, Dr. J. Marion Sims, of New York, called Dr. W. T. Howard, First Vice-President, to the chair, and then proceeded to deliver the annual address, which was chiefly a plea for liberalizing the constitution and by-laws of the Society.

After congratulating the Fellows upon the success that had attended their labors during the last four years, the hope was expressed that the strife to maintain the Society's well-established reputation would be vigorously continued. The President then reviewed briefly the history of the organization, remarking that it came into existence just at "the fulness of time," and was the outgrowth of necessity. A worthy and brilliant tribute was then paid to the memory of Atlee and Peaslee, and from that point he proceeded to consider how the boundaries of the Society could be enlarged and its professional character elevated and dignified. With that object in view, he urged several radical amendments to the constitution and by-laws, the most important of which were the following:

1. To extend the membership to one hundred.
2. To provide for transferring from active to honorary fellowship.
3. To provide for electing candidates by the Society, instead of the council.
4. To strike out the requirement that candidates shall submit an essay as a test for membership.
5. To provide for a council consisting of five or seven members, which shall act independently of the other officers of the Society.

"Looking at ourselves as others see us," there was no doubt that there was a large element of discontent outside of the Society, but the proposed amendments he believed would so change the character of the organization, that its work, which all had so much at heart, could be carried on to the highest degree of success.

The Secretary announced an invitation to visit the Cincinnati Hospital, after which the Society adjourned to meet at 3 p.m.

Second Day—Afternoon Session.

The first paper was read by Dr. G. J. Englemann, of St. Louis, on

THE INSTINCTIVE (OR NATURAL) AND PHYSIOLOGICAL POSITION OF WOMAN IN LABOR.

The author of this paper had studied his subject in the following manner:

First, with reference to the position occupied by women in labor among nations of the past, especially those of the highest and best civilization.

Second, with reference to the position in labor among the savage races of the present day.

Third, with reference to the movements of women and the position they involuntarily assumed in the agonies of the last throes of labor, when, to the exclusion of every other feeling, they were controlled largely by instinct. In this work he has been greatly aided by the Smithsonian Institution and by army surgeons, who had sent out circulars to Indian agencies, etc. He had endeavored to classify the different positions according to the axis of the body:

1. Standing or erect positions; 2, the inclined position and its varieties; and 3, the horizontal, or recumbent position.

The paper was illustrated by a large number of drawings, representing the positions assumed by women of the red, yellow, and black races, together with others of civilized races.

The conclusion which the author of the paper reached from his most exhaustive investigation was, that the fully recumbent position upon the back was inimical to safe and rapid labor, and that it retarded labor.

He believed we should advise that, in the early stages of labor, the woman should be permitted to follow her own instinct with reference to position, and even in the last stages of labor she might be allowed to do the same, except, perhaps, with reference to some general directions, and for these he would say the semirecumbent position in bed was the one best adapted to give her the greatest assistance.

The paper was discussed by Drs. J. C. Reeve, of Dayton, Ohio; Fordyce Barker, of New York; Theophilus Parvin, of Indianapolis; H. F. Campbell, of Augusta, Ga.; and A. Reeves Jackson, of Chicago, Ill.

The Society then adjourned to meet on Friday at 10 A.M.

Friday, Sept. 3d—Third Day—Morning Session.

The Society was called to order at 10.45 A.M. by the President.

The first paper was read by Dr. Theophilus Parvin, of Indianapolis, and entitled

SECONDARY PUERPERAL HEMORRHAGE.

This paper was complete, and "admirable equally for its literary excellence as for its scientific and practical value." The résumé of the literature upon the questions, what was to be understood by primary and what by secondary puerperal hemorrhage, was most exhaustive, and concluded with the author's definition of secondary hemorrhage, namely, that which occured at any time between six hours after labor and the end of the month, excluding certain mechanical causes, as inversion of the uterus, etc. The chief of the causes belonging to the uterus were included under two heads: 1, those which hindered uterine contraction, and 2, those which produced uterine congestion. When should woman rise from her bed after confinement, was a question which no law could answer, and the author favored the letting of the "nine days" be like the "nine muses," a fiction of the past. The causes of secondary puerperal hemorrhage were then enumerated, and then the author passed to the question of treatment, preventive and otherwise. It was in a properly conducted third stage of labor that many, if not most, secondary hemorrhages were to be prevented.

Hemorrhages occurring, what was to be done? The remedies recommended and the various plans of treatment were then reviewed in a brief but comprehensive manner.

The paper was discussed by Drs. Campbell, Wilson, Sutton, Barker, Shepard, and Englemann.

THREE FATAL CASES OF RUPTURE OF THE UTERUS, WITH LAPAROTOMY,

was the title of a paper then read by Dr. W. T. Howard, of Baltimore.

Rupture of the uterus with extrusion of the fœtus into the abdominal cavity was universally regarded as among the gravest accidents of parturition. Formerly they were regarded as almost uniformly fatal, but of late, since non-interference and violent and fruitless efforts to deliver through the contracted rent in the uterus had given place to laparotomy, highly encouraging results had been obtained.

Of the sixty cases, native and foreign, and collected by Dr. James Trask and Dr. Harris, recovery occurred in thirty-seven, and twenty-three terminated fatally after the operation.

Dr. Howard then reported three cases which illustrated and enforced some practical points of great interest and importance.

He purposely avoided discussing the plan of treatment to be pursued when the fœtus is *partially* in the uterine cavity, but when it has passed *completely* into the abdominal cavity, there were only three alternatives from which to choose.

1. To abandon the case to the efforts of nature—the chances of recovery being almost nothing.
2. To introduce the hand into the abdominal cavity, through the rent in the uterus, seize the child, and deliver; or,
3. Laparotomy, which by almost universal consent had taken the place of the second plan of procedure, because removal of the blood and other fluids was only second in importance to that of removing the fœtus itself from the abdominal cavity.

The paper was discussed by Drs. Wilson, Parvin, and Campbell, each of whom expressed the opinion that the suggestion made by Dr. Howard, and his proposed modification of Porro's operation, in certain cases, seemed to promise more for the woman than simple abdominal section.

Third Day—Afternoon Session.

The first paper was by Dr. Jas. R. Chadwick, of Boston, on

THE HOT RECTAL DOUCHE.

In selecting a title for this paper, the author intentionally rejected the term "enema," lest it should suggest that the practice of injecting hot water into the rectum had for its purpose the removal from that viscus of its fecal contents. He had, moreover, sought to ally the use of hot water in the rectum to the well-known hot vaginal douche, because their chief purposes and results were similar, though he believed the hot rectal douche to be in many cases most efficient.

The first group of cases in which he had of late been in the habit of relying upon the hot rectal douche as the sole therapeutic means, included cases having for their prominent symptoms *diarrhœa*, whether acute or chronic, characterized by small, frequent evacuations, the cause of which had seemed attributable to inflammation, or at least irritation of the mucous membrane lining the rectum and large intestine.

A number of avowedly typical cases of diarrhœa were then reported.

He came then to the second and far more important class of cases in which the hot rectal douche had proved eminently successful—*pelvic inflammations of all kinds.*

He then exhibited a diagram, taken from Savage, which showed with how restricted an extent of the peritoneum the vagina was in contact, and consequently how limited must be the effect of a vaginal douche in allaying peritoneal inflammation, and promoting the absorption of effusions. The rectum and large intestine, on the other hand, were seen to occupy the greater part of the pelvic and lower portion of the abdominal cavities.

The method of administration of the hot rectal douche, with a view to obtaining its utmost benefits, aimed at securing the passage of the water in large volume to as high a point as possible in the alimentary tract, and its retention for as long a period as possible. Water was taken at as high a temperature as could be borne by the hand; the patient was placed upon her side, preferably the right, in bed; a fountain syringe holding two quarts was employed, suspended quite low, so that the flow of water might be slow; as soon as the patient had a sensation of a desire to defecate, or the rectum was felt by the finger in the vagina to be distended, the current of water was arrested for a few minutes, without withdrawal of the nozzle from the anus. In that way one or two quarts of water might commonly be introduced without exciting peristaltic action. The patient must remain quiet for a quarter to half an hour, when, if not sooner, the rectum would generally have expelled a portion, if not all, of the water. He did not deem it wise for the patient to resist the expulsive action of the intestine, because it would thereby be incited to more violent efforts, which would counteract, in a measure, the beneficial action of the douche. He was unable to state how high in the intestine the water usually passed, but was satisfied that it occasionally traversed the whole large intestine to the ileo-cæcal valve.

The discussion that followed the reading of the paper was participated in by Drs. Howard, Campbell, and Reamy, who discussed at some length the question whether fluid thrown into the lower part of the large intestine went beyond the sigmoid flexure and beyond the ileo-cæcal valve. Dr. Reamy maintained that it did not go beyond the last point when injected *according to the method given in the paper*.

OCCLUSION OF THE GRAVID UTERUS.

The above was the title of a paper sent by **Dr. Joseph A. Eve**, of Augusta, Ga., and read by the Secretary.

Dr. T. A. Reamy, of Cincinnati, then read a paper on

ULCERATION OF THE CERVIX UTERI.

The following is a synopsis:

It was founded on an examination of eight thousand women supposed to be suffering from uterine disease. The author meant by the "ulcerative process" and by ulcer what was expressed by Paget and Billroth. Ulcerative processes, usually the result of detachment of dead portions or molecules of inflamed tissue. . . . Substance removed not absorbed but ejected. . . . An ulcer usually begins by slough or detachment of dead tissue by removing layers of living tissue that surround it (Paget). An ulcer is formed when, by the above processes, the vascular and proper tissue (submucosa) is removed (Paget). An ulcer is a wounded surface, which shows no tendency to heal (Billroth). Excluding syphilitic and cancerous ulceration, out of the total of eight thousand women examined there were found but nineteen cases of true ulceration. A large number suffered from abrasions, erosions—so called ulcers. The widely-extended disagreement between physicians as to the prevalence of ulceration, was attributable not to ignorance of a gross character, but to a difference of opinion as to where abrasion or erosion ceased and ulceration commenced.

The following papers were read by title:

"On the Diagnosis of Pregnancy in the Early Months." By Dr. J. T. Johnson, of Washington, D. C.

"Freund's Extirpation of the Cancerous Uterus." By Dr. J. R. Chadwick, of Boston.

"A Supplemented Contribution to the Pathology of the Cicatrices of Pregnancy." By Dr. S. C. Busey, of Washington, D. C.

"Manual Dilatation of the Os Uteri, as a means of Inducing Premature Labor." By Dr. W. L. Richardson, of Boston.

The hour for adjournment having arrived, the President, Dr. J. Marion Sims, congratulated the Society upon the marked success that had attended the present meeting, and then took leave of the chair in favor of **Dr. W. H. Byford**, of Chicago, the President elect.

Dr. Byford took the chair, and with an expression of thanks for the honor conferred upon him, and encouraging words for the future, accepted the Presidency of the Society.

He then declared the Society adjourned, to meet on the *third* Wednesday in September, 1881, in the city of New York.

The following are the officers elected for the ensuing year:

President.—Dr. W. H. Byford, of Chicago.

Vice-Presidents.—Dr. T. A. Reamy, of Cincinnati, and Dr. H. F. Campbell, of Augusta, Ga.

Council.—Drs. A. H. Smith, of Philadelphia; J. C. Reeve, of Dayton, O.; G. H. Lyman, of Boston; and J. T. Johnson, of Washington, D. C.

Secretary.—Dr. Jas. R. Chadwick, of Boston.

Treasurer.—Dr. Paul F. Mundé, of New York.

Dr. C. D. Palmer, of Cincinnati, was elected an Active Fellow, and Dr. D. H. Storer, of Boston, was promoted from active to honorary Fellowship.

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MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 27, 1880.

Dr. A. E. M. Purdy, President, in the Chair.

FRACTURES OF THE TEMPORAL BONE.

Dr. Albert H. Buck read a paper having the above title, and the following is a brief abstract of it. Fracture of the temporal bone implied, almost necessarily, damage to some part of the middle ear or labyrinth, and, in consequence of that, many of the cases of fracture, after leaving the surgical wards of our hospitals, came into the aurist's hands for the relief of partial or total loss of the sense of hearing. The value of his picture of these cases, however, must depend upon the degree to which it supplemented those already drawn by surgical authors. By reason of its peculiar structure, fractures of the temporal bone were liable to take place in parts, and along certain fixed lines where the bone is weaker than at other points. From the study of the cases which had come under his observation, he found that he could make two grand subdivisions of fractures of the temporal bone.

First. Fracture or diastasis of the tympanic or squamous portion in the region of the middle ear, without implication of the petrous portion.

Second. Fracture of both the tympanic and the petrous portion.

In one or two of the fourteen cases observed, the symptoms seemed to justify a *third* subdivision, namely, fracture of the petrous portion of the temporal bone, without implication of the middle ear. The chain of evidence, however, though pointing strongly to such a conclusion, was not sufficiently complete to warrant the introduction of this third class. The first class, which included fracture of the temporal bone in the region of the middle ear, without implication of the petrous portion, might be broken up into smaller subdivisions. For example: 1, cases in which no visible hemorrhage or other discharge took place from the ear; 2, cases in which hemorrhage or bloody discharge from the ear *followed the accident;* and 3, cases in which the accident was followed by spitting of blood, due to its escape from the middle ear, by way of the Eustachian tube and into the naso-pharyngeal cavity or nasal passages.

The cases belonging to the second were, as a rule, of a more serious character than those belonging to the first grand subdivision. The severity and the duration of the illness which immediately followed the accident were usually so great, that the aurist never saw such cases until after the characteristic lesions in the region of the drum-membrane had disappeared. The line or lines of fracture might run in a variety of directions, and might involve other organs besides that of the ear proper, and from the symptoms produced we might also locate more or less accurately the course pursued by the fracture. To illustrate that point the histories of three cases were given. The complete loss of hearing power in those three cases constituted the distinguishing feature of this second class.

When in a case of injury of the head that symptom was discovered shortly after the occurrence of the accident, it was safe to assume, with the knowledge which we at present possessed, either that a fracture had taken place through the labyrinth, or that an extravasation of blood had taken place in the cochlea without fracture.

The next symptom to which Dr. Buck directed attention was that of bleeding from the ear. That symptom had always been considered of great diagnostic value. It was a prominent symptom in five of his cases. Reference was then made to Prescott Hewett's article "On Fractures of the Base of the Skull," in which stress was laid upon both the copiousness and the duration of the bleeding, and we were permitted to draw the inference that if the bleeding was not "of a serious nature" a fracture of the base might not have taken place. Dr. Buck thought that neither Hewett's observations nor his own warranted any positive statements on that point. Indeed, the whole subject of fractures of the temporal bone should be studied afresh. The author of the paper also maintained that in every case of suspected fracture of the temporal bone an aural examination should be made, and the conditions observed should form a part of the record of the case. Until that was done in a sufficiently large number of cases, it would not be possible either to confirm or refute authoritatively the statements made by Mr. Hewett. From his own experience he would say that the symptom of bleeding from the ear was susceptible of a somewhat broader interpretation than that given to it by Prescott Hewett, and he would add to Hewett's proposition, "*when a fall or blow upon the head is followed by bleeding from the ear, no matter how trivial, we may diagnose a fracture of the temporal bone in the neighborhood of Shrapnell's membrane, and probably in the line of the Glaserian fissure.*" By that proposition he meant to convey the idea, so far as the mere symptom of bleeding from the ears was concerned, that we were scarcely justified in assuming that the line of fracture extended beyond the region of the tympanum.

In the next place, the symptom of visible bleeding from the ears was not a necessary accompaniment of fracture of the temporal bone. On the other hand, evidence of inflammation of the part surrounding the drum-membrane afforded excellent evidence of such a fracture.

Of the remaining symptoms, the most important, after hemorrhage from the ear, was that of a watery discharge from the external auditory canal. Dr. Buck thought that the significance of that symptom has been very fairly stated by Prescott Hewett. In his own cases, there were but two in which the symptom of a watery discharge from the ear was well marked. In one it was probably partly inflammatory in origin.

In that connection he mentioned a fact with which every aural surgeon was familiar, and which should make us hesitate a long time before we pronounced a watery discharge, no matter how profuse, to be due to the escape of the cerebro-spinal fluid. The fact was that, in exceptional cases of acute inflammation of the middle ear, the flow of a thin, serous fluid from that cavity after the perforation had become established in the drum-membrane—whether by natural or by artificial means it mattered not—was so copious as to excite great astonishment.

Dr. Buck then examined some of his cases with reference to the source from which blood might possibly come, and with reference to the necessity of making thorough aural examination in every case.

Dr. Samuel Sexton, in opening the discussion, remarked that it had been his fortune to have lately seen two cases of fracture of the base of the skull, which had been kindly sent to him by medical friends, and both occurred as the result of falls from a wagon. In both there was slight unconsciousness from the shock. In both there was immediate trickling of blood from the ear—not great in quantity however. The patients were confined to the house—one for one month, the other for two or three weeks. One suffered from pain and deafness; the other had no deafness; but accumulations of inspissated blood in the meatus occasioned great distress to both of the patients and caused them to suffer more than from any other part of the injury. He had seen no allusion to this complication in the literature of this subject, and he believed it had not been mentioned by the author of the paper: in one of his cases the irritation of this hardened blood gave rise to a painful crop of furuncles. In both cases there was *tinnitus aurium*, which seemed to indicate that the middle ear had been somewhat affected. Both patients complained of headache for a long time, and in both vertigo was a prominent symptom, and still continued. These patients, since the injury, were very nervous, easily tired, and forgetful. As regarded symptoms of fracture of the base of the skull in those cases, there was extravasation of blood under the eyes of one and behind the mastoid of the other. The mastoid extravasation disappeared in a few days; the extravasation in the other case lasted longer, and there was expectoration of blood for a long time, and apparently coming from the pharynx. The seat of the fracture in these cases, Dr. Sexton said, was difficult to locate.

As to the point in diagnosis where there had been a large serous discharge from the ear: in one of his cases the patient informed him that there had been a copious watery discharge from the ear; it was subsequently found to be incorrect, however, and it occurred to Dr. Sexton that by making use of the tuning-fork he might be able to ascertain whether or not there had been fracture of the petrous portion of the temporal bone, an injury likely to wound the auditory nerve; but he found that the hearing was better upon the injured than upon the other side.

Dr. E. Eliot read an obituary notice of the late Dr. Chas. M. Allin.

Nominations for officers for the ensuing year were made. Several amendments to the by-laws were proposed, to make them harmonize with the provisions of the new law regulating the practice of physic and surgery.

The Society then adjourned.

Correspondence.

"ON THE RELATION OF MUSCLE AND NERVE."

[To the Editor of The Medical Record.]

Sir:—While not seeking to enter on a controversy with you in regard to your recent editorial criticism of my theory, I trust, in justice to it and to me, that you will kindly permit the following remarks to appear.

In presenting certain facts, "pretty definitely known" as the basis of an argument against my theory, you state: "In the first place, it is known that a muscle can contract, when irritation is directly applied, *without the intervention of nerves*" (italics mine).

This proposition has been generally accepted, but it has never been proven, and the inter-relations of nerve and muscle are such that to prove it is impossible. I need not remind you, on Dr. Klein's authority, that every part of a muscle is impenetrated by nervous tissue, even to the nucleolus of the nuclei of the muscle-cells. This being the case, it is impossible to operate on any portion of a muscle without at the same time implicating a corresponding series of ramifications of nervous tissue. Those experiments, therefore, which purport to deal with muscular tissue alone, to the exclusion of nerve-tissue, are erroneous, and the conclusions sought to be deduced from them are not entitled to acceptance as established facts.

This is not the place to enter on an *exposé* of the fallacies of the experiments relating to muscular contraction; but let us glance for a moment at the conditions advised as best adapted for the production of "ideo-muscular contraction." Dr. Michael Foster recommends for this purpose the selection of "a nerve-muscle preparation, which has been *much exhausted* by treatment, or by *long removal* from the body" ("Hand-book Phys. Lab.," p. 396) (italics mine). Why is this? If the blow with which we are to "strike the muscle sharply" acts as a stimulant, would not a fresh and vigorously acting muscle be more easily roused to action than one "much exhausted"? On the other hand, if muscular contraction be due to the absence of nervous action, as Dr. Radcliffe claims to have proved, an exhausted nerve is precisely the one best fitted for the purpose, since it is more readily and more certainly completely paralyzed by the assault made on it than would be the case with a recent or unexhausted nerve. That it is through the nerve, rather than by direct impact upon the muscle itself, the ordinary wave of contraction is produced, is shown by the well-known fact that a blow, pinch, burn, etc., applied to the nerve-trunk alone, extraneous to the muscle, produces the desired effect equally with a similar application to the combined nerve and muscle.

It has been *assumed* that the blow, pinch, burn, etc., acts as a stimulus; but the experiments do not prove this. They prove that muscular contraction attends certain actions done to the nerve alone, and to the combined nerve and muscle, but *how* this result is brought about is merely a matter of inference, and yet by the medical scientists of the day this *inference* is promulgated as a fact established which must pass unchallenged despite authenticated facts which weigh against it. You do not attempt to refute these facts, but content yourself with a reiteration of conclusions which are unproven, and which the experiments relied on for their support do not warrant. In the words of a vigorous Old World writer (Dr. Inman), until we rely "upon logical deductions rather than on what are called 'time-honored facts,' because they have been asserted for a century or two—though not facts at all—the practice of our profession will not improve."

As for the objection regarding the absence of muscular contraction during the operation of a nervous paralyzer like curare, I admit that if it were *proved* that curare paralyzes the *terminal motor nerves*, the objection would be a serious one. As this has not been proved, and the allegation is a mere inference, deriving all its force from its relation to the theory now prevalent; as, besides, the allegation may at any moment be disproved by additional evidence, the objection may be passed over. All the phenomena of curare-poisoning admit of explanation by its paralyzing action on the larger nerve-trunks, leaving the terminal nerve-ramifications free to control the muscles.

In drawing a distinction between tetanized and normally contracted muscles, you state: "Dr. Austin Flint, jr., believes that urea is produced by and is the measure of muscular action. Urea, however, is not found in tetanized muscle." This is not a fortunate argument. Recent facts, of careful experimentation, by able observers, who have "solved this problem in a remarkable manner," establish that muscle in action consumes not nitrogenous elements but the hydrocarbons principally, and that "muscular labor causes scarcely any increase in the excretion of urea." (See the facts fully stated in Prof. Küss's lectures, etc. (Duval, Amory), pp. 78–9.) This renders your argument unnecessary; and as to the other considerations regarding rigor mortis, they need not be referred to until the physiological facts elsewhere adduced in the Record are met and refuted.

I do not intend to discuss in this place the alleged electrical phenomenon of nerve and muscle, on which Professor Trowbridge's conclusive experiments have thrown the gravest doubt. But even were these currents certainly shown to exist, may they not originate in the molecular changes attending the *release* as well as the stimulation of muscle? If, as Professor Draper states, a "close analogy between nerve and muscle" is to be inferred, because cells enter into the structure of both, then the same doctrine will apply to every organ of the body, which, as a basis from which to infer a similarity of function, is absurd. It would be strange, indeed, if two structures so entirely different in composition, in form, and in their relation to other parts of the organism, as nerve and muscle, should evolve forces so much alike as to have a similarity of office.

You unintentionally do me an injustice in regarding my theory as an extension of, or in any way associated with, the "inhibitory" hypothesis of the day. So far from this being the case, I claim it as a special merit of the theory I advocate, that it renders this supposititious array of "inhibitory" nerves and their hypothetical "centres" and other "apparatuses" quite unnecessary to a full explanation of the facts and phenomena of the organism in health and disease. It is therefore too bad that, while really seeking to dispense with the incubus of "inhibition," you characterize my views as "inhibition run mad."

With these brief remarks, I leave the question at issue to your readers, trusting your kindly sense of justice and fair play will permit them to appear, well knowing that a subject of this kind, presented as it has been, can hardly escape being sometimes misapprehended.—Yours respectfully,

THOMAS W. POOLE, M.D.

LINDSAY, ONT., September 27, 1880.

[We publish with pleasure Dr. Poole's courteous letter. We have but little comment to make upon it, as he brings nothing new to strengthen his hypothesis, and it is on hypothesis which we affirm again to be unproven and undemonstrable.

In regard to the fact of idio-muscular contractility, there are few of the difficult points in physiology that are more clearly settled. We refer Dr. Poole to the investigations of Schiff, Kühne, and Heremann; also to the recent experiments of B. F. Lautenbach, and to the facts of comparative physiology. There are contractile organisms without nerves.

The theory of Dr. Poole, as we understand it, is that the nerve holds on to the muscle until a paralyzing wave is sent down, when the nerve lets go and the muscle contracts. In a state of rest the nerve is constantly exercising a repressive inhibitory action. We therefore spoke of the theory as an inhibitory one, and must still consider it so. If Dr. Poole really means that the nervous system exercises no active influence during muscular repose, and that a nervous impulse passing to the muscle liberates its activities, transforming potential into kinetic energy, he has not made his meaning clear. And if he did mean this, he has been arguing all along for theories already adopted.—ED.]

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 3, 1880, *to October* 9, 1880.

HAPPERSETT, J. C. G., Major and Surgeon. Assigned to duty as Post Surgeon at Fort Brown, Texas, to enable Asst. Surgeon F. Meacham to comply with S. O. 190, C. S., A. G. O. in his case. S. O. 19, Department of Texas, September 29, 1880.

BREWER, J. W., Capt. and Asst. Surgeon. Assigned to duty at McPherson Barracks, Atlanta, Ga. S. O. 117, Department of the South, October 7, 1880.

DICKSON, J. M., Capt. and Asst. Surgeon. Assigned to duty as Post Surgeon at Vancouver Barracks, W. T. S. O. 171, Department of the Columbia, September 24, 1880.

HEIZMANN, CHARLES L., Capt. and Asst. Surgeon. Granted leave of absence for one month, with permission to apply at division headquarters for an extension of one month, and to the Adjutant General of the Army for a further extension of two months. S. O. 170, Department of the Columbia, September 23, 1880. Leave of absence extended one month. S. O. 143, Division of the Pacific and Department of California, September 28, 1880.

CRONKHITE, H., Capt. and Asst. Surgeon. Assigned to duty as Post Surgeon at Camp Sheridan, Nebraska. S. O. 94, Department of the Platte, October 5, 1880.

WEISEL, D., Capt. and Asst. Surgeon. Assigned to duty as Post Surgeon at Fort Warren, Mass. S. O. 181, Department of the East, October 8, 1880.

GRAY, WM. W., First Lieut. and Asst. Surgeon. When relieved by Asst Surgeon Dickson, to report to commanding officer, Fort Canby, W. T., for duty as Post Surgeon. S. O. 171, C. S., Department of the Columbia.

GORGAS, W. C., First Lieut. and Asst. Surgeon. Assigned to duty as Post Surgeon at Fort McIntosh, Texas, to enable Asst. Surgeon J. H. T. King to comply with S. O. 190, C. S., A. G. O., in his case. S. O. 199, C. S., Department of Texas.

Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 9, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Oct. 2, 1880.	0	14	50	3	6	91	0	0
Oct. 9, 1880.	0	16	58	2	11	97	0	0

DR. J. H. MACDONALD, Ex-president of the Canada Medical Society, and member of the Medical Council of Ontario, has been on a brief visit to this city. During his stay he was the recipient of the hospitalities of many prominent medical gentlemen here. On Oct. 11th he held an informal reception at the house of his friend, Dr. D. W. Goodwillie of this city.

REQUIREMENTS FOR PRACTICE OF MEDICINE IN NORWAY.—We take the following from Hardwicke's recently issued "Medical Education and Practice in all Parts of the World:" "To matriculate as a student of medicine, the applicant has to pass two preliminary examinations: one in arts, including Norwegian, Latin, Greek, French, German, English, mathematics, geography, and history; and one in philosophy, including geometry, zoölogy, botany, astronomy, and the elements of chemistry and physics. He then enters on the study of medicine proper, which occupies nearly seven years. There are three professional examinations, arranged as follows:

"First examination, held two years and a half after matriculation, upon anatomy, dissections, use of the microscope, histology, chemistry (organic and inorganic), zoölogy, and botany.

"Second examination, held three years and a half after the first, upon physics, pharmacology, toxicology, medicine, therapeutics, general pathology, and pathological anatomy, ophthalmology, skin diseases, and surgery.

"Third examination, held about a year after the second, upon surgery and bandaging, topographical anatomy, obstetrics and gynæcology, diseases of children, forensic medicine, hygiene, and a practical examination in medicine and surgery. Thorough practical work in connection with the various hospital wards is also obligatory. Upon passing the final examination the candidate becomes a physician, and receives the right to practise. If he further desires to receive the degree of Doctor of Medicine, there are additional examinations and requirements."

DR. EBEN HUNT, Junior Assistant First Medical Division, Bellevue Hospital, died at 20 West Twenty-fifth Street, New York, on September 3, 1880, of diphtheria.

Dr. Hunt was born in Gilford, N. H., November 2, 1845. He was graduated from Gilford Academy, in Gilford, N. H., in 1866, and from Dartmouth College, at Hanover, N. H., in 1870; was Professor of Ancient Languages in Hooper's Academy, in Yonkers, N. Y., from 1870 to 1873; Professor of Chemistry and Natural and Experimental Philosophy in the Chester Military Academy of Pennsylvania, at Chester, from 1873 to 1877; and Instructor in Greek in the University of the City of New York, from 1877 to 1879.

He was graduated from the Medical Department of the University of New York in 1879, and was then appointed on the medical staff of Bellevue Hospital, where he was serving at the time of his last illness.

At a meeting of the staff of Bellevue Hospital, the undersigned were appointed a committee to express to Dr. Hunt's family their sympathy in the loss sustained by his death, and to insert the above sketch of his life in THE MEDICAL RECORD.

A. CRESSAP MCCOY, M. D.,
WILLIAM S. CHEESMANN, M.D.,
REESE H. VOORHEES, M.D.,
THOMAS D. SWIFT, M.D.

BELLEVUE HOSPITAL, September 30, 1880.

THE DEATH OF DR. CHARLES M. ALLIN, OF NEW YORK.—At a stated meeting of the Medical Society of the County of New York, held on the evening of September 27, 1880, the following report was accepted, and the resolutions contained unanimously adopted:

The committee appointed to prepare a suitable minute in regard to the death of Dr. Allin respectfully submit the following:

Charles Mason Allin, A.M., M.D., who was born at Providence, R. I., October 30, 1827, died in this city, after a prolonged illness, June 20, 1880.

Your committee recommend that it be

Resolved, That in his death this Society, and the medical profession as well, have lost one who, though but just in the maturity of manhood, had gained an enviable position in his chosen calling.

Resolved, That in his life we recognized an example of great industry, unsullied integrity, excellent scholarship, and unusual public spirit, which made his career of great service to his fellow-men, and his death deeply regretted by all with whom he has been associated.

Resolved, That we respectfully offer to his family our heartfelt sympathy in the affliction which has deprived them so prematurely of an exemplary husband and father.

Resolved, That a copy of this minute, signed by the President and Secretary, be sent to the family of Dr. Allin, and to THE MEDICAL RECORD for publication.

ELLSWORTH ELIOT.
A. B. BALL.
A. E. M. PURDY, President.
F. A. CASTLE, Secretary.

SEPTEMBER 27, 1880.

THE HYDROPHOBIA IN FRANCE.—The number of cases of hydrophobia, for the Department of the Seine, that have occurred in dogs during the present year, is 127. Of these 103 were bitten by other dogs. There were twenty-four persons who had been bitten by mad dogs, but of these only two had developed hydrophobia.

EFFECTS OF MEDICAL LEGISLATION IN ILLINOIS.—The Philadelphia *Medical and Surgical Reporter* presents the following facts regarding the effect of medical legislation in Illinois: In July, 1877, when the law first went into effect, there were 7,400 physicians in the state, of whom only 3,600 were licensed or qualified practitioners. In 1880 the number of qualified practitioners had increased to 4,825, while the unqualified practitioners had decreased to 1,500. The total number has thus decreased to 6,325. The number of itinerants has decreased from 73 to 9, and the number of cancer doctors from 23 to 4.

SICK CHILDREN'S EXCURSIONS IN EUROPE are becoming more extensively undertaken every year. Starting at Zurich, at the instigation of Pastor Bion, the practice of sending out companies of sick children into the country during the summer has extended to the cities of Frankfort, Dresden, Stuttgart, Vienna, and Berlin.

HAPPY MEMPHIS.—During the last week of September the city of Memphis celebrated its freedom from pestilence the past summer. The city was decorated with flags; there were fireworks, illuminations, processions, and crowds of visitors. Memphis may well be glad. It was a critical time for her. If the yellow fever had appeared a third time the city would have been ruined.

THE INTERNATIONAL CONGRESS OF HYGIENE held a meeting at Turin, September 7th to 11th last, Prof. Panchiotti presiding. Representatives from Germany, France, Switzerland, Bucharest, and Italy were present, and took part in the discussion.

The first subject considered was that of inter-ternational quarantine. The creation of an international sanitary council was recommended, but no further definite steps taken.

The congress recommended the establishment of health boards in all the states and countries. It endorsed compulsory vaccination, recommended the teaching of science in the universities, heard an essay on the eucalyptus, saw a body burned up at the city crematory, and adjourned to meet at Geneva in 1882. Nothing appears to have been said about the sanitary conference proposed to be held in this country next year.

THE PHILADELPHIA CORONERSHIP.—It is rumored that Prof. Henry Leffmann, well known as a chemical expert and as a teacher of toxicology, will be a candidate for coroner of Philadelphia. The office is one requiring medico-legal training, and it is therefore evident that a medical man of ability and acceptable to the profession would make a strong candidate.

THE NEW SYDENHAM SOCIETY during the coming year is to have translated a selection from Duchenne's works; also Charcot's Lectures on the Diseases of Old Age, and on Certain Chronic Maladies.

NIGHT MEDICAL SERVICE.—At a stated meeting of the New York Academy of Medicine, held at the Academy's Hall, 12 West Thirty-first Street, October 7, 1880, the following preamble and resolutions were offered by Prof. A. C. Post, and were unanimously adopted:

It being one of the objects of this Academy to approve and further any innovation tending to advance the science and art of medicine, or to facilitate the beneficent practice thereof; and, moreover, it being our desire to show due appreciation to those who may, by their labors, have succeeded in accomplishing such an end, therefore be it

Resolved, I. That this Academy believes that the establishment of the Night Medical Service in the city of New York is a boon to the community; and that by its means much good will accrue to both patients and physicians, inasmuch as it places by the side of the suffering patient skilled medical attendance at the shortest notice; and on the other hand, gives the assurance to the physician that his merited remuneration will be duly received.

II. Believing the law to be a benefit, and recognizing the fact that it is due to the earnest and well-directed efforts of Dr. Henri Nachtel, a stranger among us, that we owe its establishment, we therefore desire to testify to him our appreciation, and to extend our cordial thanks for his disinterested zeal in accomplishing so much good for the welfare of the community, including the medical profession.

III. *Resolved*, That the above resolutions, signed by the President and Secretary, be engrossed and forwarded to Dr. Nachtel in Paris.

Edwin F. Ward, M.D.,
Recording Secretary.

Erythroxylon Coca in the Opium and Alcohol Habits.—Dr. W. H. Bentley reports in the *Therapeutic Gazette* eleven cases of the opium-habit, all but one of which were cured by the use of a pound or two of erythroxylon coca. Three cases of inebriety were also said to be cured. The drug is given in drachm doses of the fluid extract, increased if necessary and repeated till some relief from the morbid desire is felt.

Canada Medical Association.—The thirteenth annual meeting of this association was held Sept. 1st and 2d, at Ottawa, about 100 members being present. Drs. Brodie, Brush, and Goodwillie, delegates from the American Medical Association were present and were elected honorary members. The work of the society was done in a general session and two sections, one on medicine, the other on surgery. Thirteen papers were read, several of them exciting quite lengthy discussion. Venesection received considerable favor. The dangers of "cramming" children and the evils of the present system of education were discussed. Dr. J. A. Sewell reported cases in which tea had acted efficiently as an antidote in opium-poisoning. Dr. Stewart reported fifteen cases showing the efficacy of cannabis Indica in the treatment of hemicrania.

In the surgical section the treatment of wounds was the subject of discussion. No defenders of Listerism appeared. There were papers upon the subject of Brain Lesions, Plastic Operations on the Eyelids, Mastoid Disease.

The Presidential address by Dr. Howard was devoted to urging the importance of health legislation. He also spoke of the needs to society of state inebriate asylums, and he recommended that there be medical experts at coroner's inquests.

The address was spoken of as a very able one. The meeting itself was also considered a success.

The next annual meeting will be at Halifax, N. S., Aug. 3, 1881.

The Dengue or Break-bone Fever at Charleston.—An account of the epidemic of break-bone fever at Charleston has been furnished to the Bulletin of the *National Board of Health*, by Dr. F. P. Porcher. We give this in substance below: Charleston has always been peculiarly subject to this fever, and at times it has affected seven-tenths of its population. The present epidemic is not a very severe one and is now abating. The Charleston Board of Health has expressed considerable indignation against the National Board for publishing the facts concerning the outbreak. It is thought that the commercial interests of the city will suffer in consequence:

Dr. Porcher says of the symptoms:

The disease generally begins with a feeling of coldness, or by a chill, followed by fever. This, with a temperature ranging from 100 to 105°, lasts generally from 24 to 48 hours, occasionally extending to four or five days, and even in rare cases to seven. Relapses occasional, specially in those who have gone out too early. Headache frequent, generally frontal, from the beginning. Miliary eruptions, sometimes elevated and red, like measles, and the occasional presence of *sudamina over the face, neck, and body;* sometimes the eruptions were confined to the body, and endured for days after recovery. We have seen some examples of slight desquamation—furfuratious or branny in character. Sweating profuse in many persons, though *often absent.* Hence, some physicians are inclined to consider the disease to be *suette miliare* of a mild form. "Breakbone" is the best name, because pain in the bones and limbs is the most constant symptom. There is often great restlessness during the fever, and in some a feeling of tightness or congestion about the throat, with bleeding in a few cases known to us. Catarrhal symptoms are rarely present, although cough has occasionally existed. Bleeding from the nose not unusual in children, and also increase in the menstrual molimen has been observed. Pain in the back and limbs markedly present, but no decided swelling of joints, no carbuncular enlargements or boils, as in the epidemic of dengue of 40 years since, or in that of "breakbone," which followed some years subsequently. Weakness and prostration have been very decided, but not nearly to such an extent as in previous epidemics. Some of the physicians consider that there has been a tendency to hepatic torpor or congestion, of no great severity, however. We have heard of no cases of decided jaundice. Nausea and vomiting seldom occur.

The disease does not affect all the members of a household, oftentimes only one or two being seized, though we have known six to be taken in one house; in this respect differing from the dengue, as described by Prof. Dickinson, and from the epidemic seen by us some thirty years since. Then 10,000 were down; no one was well enough or strong enough to help his neighbor, and one had to learn to walk over again.

It is difficult to calculate the number who have suffered, as very many have not employed a physician; from 2,000 to 3,000, perhaps, approximates the number.

Very little active treatment has been used; as far as we can learn, as follows: A mild laxative, saline or mercurial, hot teas, nitre, pediluvia, sinapisms, etc., and quinine during and after the attack, upon theoretical grounds, with occasionally mild stimulants. Several persons have recovered with no treatment whatever.

It has prevailed among both races, perhaps equally, and *not a single death is ascribed to this disease* as far as we can learn. The only disadvantage which accrues to those who take it is the time lost and the temporary pain and weakness from which they suffer.

Books Received.

Slight Ailments: Their Nature and Treatment. By Lionel S. Beale, M.B., etc. Philadelphia: Presley Blakiston.

Manual of Minor Surgery and Bandaging. By Christopher Heath. 6th edition. Philadelphia: Lindsay & Blakiston.

The Ocean as a Health Resort, etc. By William S. Wilson, L.R.C.P. Philadelphia: Presley Blakiston. 1880.

Original Lectures.

EXCISION OF THE INFERIOR DENTAL NERVE,

By Means of the Dental Engine, for the Relief of Obstinate Neuralgia.

A CLINICAL LECTURE.

By JAMES E. GARRETSON, M.D.,

PROFESSOR OF ANATOMY AND SURGERY IN THE PHILADELPHIA DENTAL COLLEGE.

The case before the class is one of neuralgia of the region supplied with sensation by the third division of the fifth nerve. The woman is so great a sufferer that, as life itself is concerned, there exists absolute necessity to afford her relief. To accept her own story, the pain aroused in the simple act of opening the mouth is so great that she has starved during the last nine weeks rather than endure it.

What is neuralgia? It is nothing, it is everything. The term itself signifies pain, nerve-pain; that alone. To say that a person has neuralgia is to express nothing in the way of cause; an aching toe is a neuralgic toe; so, too, an aching tooth; so, also, a paining heart.

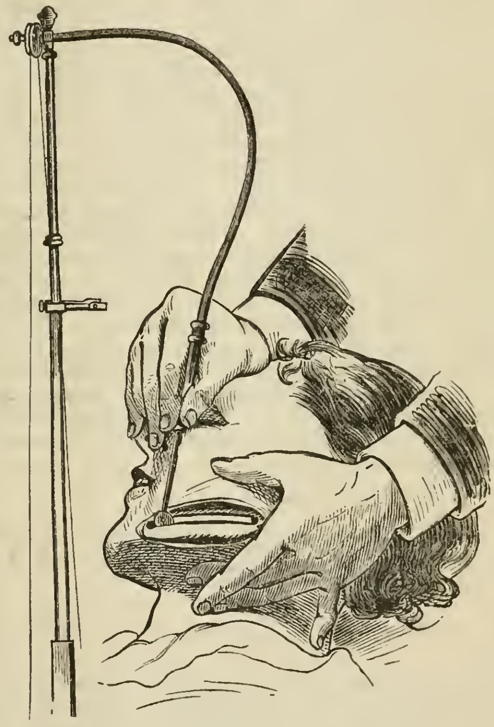
In a case of neuralgia, that which the surgeon wants to get at is *cause*. To diagnose simply that a patient has neuralgia is to say nothing more expressive of the doctorly attributes than is spoken by a child when complaining of a stomach-ache. Without an added explanation as to cause, he who diagnoses neuralgia diagnoses nothing. Pain arises out of irritation, and diagnosis in neuralgia is appreciation of the thing that irritates.

In this hospital, where are treated so many cases of neuralgia, large opportunity is furnished for the study of cause. So much in the way of cause are we constantly exposing, so much in this way have we discovered, that naturally Anstie's views come to stand in little favor with us. Only a single week back, as you remember, I told the class about a private patient, just dismissed at the time, where the pharmacy had been exhausted in the constitutional treatment of a tic douloureux, found finally to be dependent on an ulcer situated upon the inner face of the uterine fundus. In proportion as the ulcer responded to the treatment employed for its cure, so did the pain disappear. A multitude of similar instances are familiar to this clinic.

The patient before us has neuralgia from a cause. From what cause? From the presence of an irritant. Where is the irritant, and what is it?

In the press of the service to-day I have no time to tell you how I arrived at a conclusion that the trouble is disorganization of a nerve, and that the part affected lies in the dental canal of the lower jaw. A matter of interest to the class, and as well of vital concern to the patient, is the correctness of the inference made.

I now proceed to expose and resect the inferior maxillary nerve. Here, gentlemen, I introduce you to a manner of performing the operation which I am sure needs only to be seen to be appreciated. The operation is one of my own devising. I show you the lady without a scar; I desire to cure her without making one. Now to the surgical indications of the case. The first is to operate without resulting disfigurement; the second, to so expose the nerve that it may be examined before being lifted; the next is the cutting of the bone in such manner as will justify me in acting from the conclusion of no suppuration. The patient will now be etherized. . . . I now pull the skin of the neck upward upon the jaw, and thus draw up the shade-line from the base of the face (right side) until it rests upon the body of the inferior maxilla; and then, feeling for the facial artery, I protect it by my finger-nail placed just in front. Inserting the blade at this point, with its heel toward my finger, I cut forward, making an incision about an inch and a half in length parallel with the bone. Now my assistants, with the aid of retractors, pull the artery backward and also stretch and hold the lips of the wound apart. No hurry, gentlemen; make haste slowly. I now remove a strip of the periosteum corresponding with what I judge to be the breadth of the maxillary or inferior dental canal. This is accomplished with the aid of the raspatory at the end of the scalpel. I look now for the mental foramen, which I know signifies the position of the canal. I have it.



Now I resort to the *engine*, with a fine circular saw attached making at least two thousand revolutions a minute. The machine, as a whole, is noiseless and efficient in operation. Rapidly as this little saw is revolving, I hold the hand-piece and can control it as I would a pen. The delicacy of its manipulation in experienced hands every surgeon who has ever used it must appreciate. I pass the saw from the mental foramen backward along the margin of the canal. The upper side is cut. Back again to the starting-point, and soon the lower portion is divided. Now, replacing the saw with this delicate trephine, I sever the strip of bone at either extremity, and with this finely tempered chisel pry up and remove it. Underneath should lie (normally) the vessels and the nerve, but here I have from pathological expressions diagnosed an abnormal condition and disorganization of the nerve ; or it may be that an inflammatory exudate is pressing upon it, or, possibly, a foreign growth developing within the canal. I will examine. See with what ease we proceed—no anxiety, no blunder, but perfectly satisfy ourselves as to what we have or have not. I do not find anything like a nerve in the centre of this canal. Gone. disorganized as well as the vessels ; I was right in my diagnosis. Now, I have the end of the posterior portion of the nerve. Before exsecting it at the posterior part of the opening I will stretch it, in order to obtain whatever benefit may result from such stretching. I now divide it. The end of the anterior portion is as red as a cherry. I will cut it out also.

Now I wash and cleanse the parts, which is an important point to be observed. Again the engine. This time it carries an inverted conoidal corundum disk, with which I smooth down the roughness and points around the margins of the opening, for I do not wish to have necrosis or caries, which there might not be sufficient vitality to resist. I am careful to have no foreign material enclosed. *That* would interfere with my calculations. Finally, I bring the lips of the wound together in such manner as to leave no *bag* to give trouble. I aim to get as immediate union as possible. I have not used a single ligature. If hemorrhage *should* occur, the wound can be opened and the bleeding arrested by packing. My dressing is antiseptic and dry. Now, gentlemen, there is a nerve resected and no deformity. The indications have all been met, and I expect you to appreciate the refinement of the operation æsthetically.

(The patient was kept in the ward for two or three days and then sent home. Two weeks afterward her physician sent word that she was relieved of pain and doing exceedingly well.)

A CLINICAL LECTURE.

By C. R. AGNEW, M.D.,

NEW YORK.

Case I.—*Facial Erysipelas—Treatment of Lachrymal Abscess.*

This man comes with an extensive patch of redness upon the left side of his face, covering the eyelids of the left eye, extending over the bridge of the nose, down upon the cheek to the angle of the mouth, and back half way to the angle of the jaw. Upon the bridge of the nose it is broken by what seems to be a ruptured bleb, and scattered about that broken bleb are two or three vesicles, little blister-patches of skin, looking as though beneath them were some serous fluid. Now, it is a question whether this is an eye case or whether it belongs to some other surgical category. The patient is twenty-five years old, and a shopkeeper by occupation. He says that last Saturday he felt chilly, went home, went to bed. Upon Sunday was up about the house ; went to bed about ten o'clock in the evening ; felt chilly at that time, and his eyes began to hurt him, were red, and water ran out of them, and on the following morning the eyes were swollen, the face on the left side was broken out, and this morning the left eye was closed entirely. He also says that he takes "a drink occasionally," and that the left eye was hurt about a year ago by being partially *gouged* out. This is an operation the results of which, several years ago, we used to see a great deal of. The operator who felt inclined to perform it twisted the forefinger into a lock of the hair of the objective, and then inserting the thumb of the same hand into the temporal or nasal side of the orbit, pressed the eyeball out upon the side of the cheek. This practice, however, I am glad to be able to say, seems to be going out of use, with some other practices which seem to be flagging.

The pupil of that left eye is a little larger than the pupil in the fellow eye, and he says he has not been using any drops in the eye. His eye looks as though he had paresis of the sphincter of the pupil, either from some morbid condition of the nervous supply, or from the effect produced by some mydriatic. It is barely possible that the slight dilatation of the pupil in this case may be due to the injury to which he has alluded. We have, then, this red patch and swollen eyelids, and when a man presents this condition you must look carefully to the tear apparatus, because I have seen just such a blush springing from inflammation of the lachrymal sac ; not sufficient to produce abscess of the sac nor obvious swelling of the sac, because this inflammation at the side of the nose and upon the cheek produces more or less œdema of the connective tissue, which elevates the skin and submerges the small swelling existing in the sac itself. The condition of the lachrymal sac, therefore, must be carefully ascertained, and that can be done by placing the finger or thumb by the side of the nose, over the region of the sac, and making gentle pressure. If you find a doughy swelling in the region of the tear-sac, and by pressure can squeeze out from one of the puncta a semi-glairy, muco-purulent fluid, you may feel confirmed in the belief that there is some tear-sac trouble. But in this man's case I cannot see, at this moment, that there exists any such trouble. The nostril upon that side discharges rather more freely than the other. A sharp catarrhal inflammation of the mucous membrane of that tear-sac and nasal duct might, by contiguity, develop inflammation of the skin. Then, again, it might be a patch of erysipelas, and to that view color is lent by the fact that when it began he was chilly all day, went to bed feeling chilly, etc., and prodromal symptoms continued for several hours just before the red patch appeared. He seems to have had that kind of malaise characteristic of the onset of an attack of erysipelas, this cutaneous outbreak being merely an external expression of that peculiar vitiation of the blood which exists in connection with erysipelas.

It is decidedly erythematous or erysipelatous-like ; it is limited rather sharply about the edge ; pressure upon it causes the blood to desert the capillaries, but it quickly returns, and I should be disposed to think that it is a patch of erysipelas following some catarrhal inflammation about the nostrils, with a little catarrhal inflammation of the conjunctiva of the lids occurring in a man whose general condition is not good. His tongue is furred, and his hand is rather shaky. He uses tobacco to excess.

[Here the patient went into the adjoining room.]

You cannot always depend upon everything which a patient says. I did not wish to expose him before the clinic regarding the matter of habits ; but he does not look as though they were altogether hygienic, and yet I should be sorry to have any prejudices against him. He looks to me, however, "a little stale," to employ an expression used among trainers, as though he was in that condition in which the laws of waste and repair are so disturbed that he is not quite right relative to his tissue-metamorphosis. There is a lack of clearness about his complexion which we should not see in a man at his time in life. The fact, also, that he suffered from the peculiar injury of his left eye at one time is rather suggestive.

Nothing new was learned in the private examination.

As to treatment, I should give him some mild laxative—say, a wineglass of bitter water in the morning, in a tumbler of hot water, a mild saline laxative which will clear his mucous membrane; and then a little quinine—say, two grains t.i.d., and put upon that reddened surface some simple wash. As there is no eye-affection, I should use a solution of acetate of lead, ʒj. to Oj. of water, and he should keep out of the wind, should not be exposed to wet or cold, and should have a diet consisting chiefly of milk, with a moderate quantity of meat once a day.

Although there is no swelling about the lachrymal sac, I think it is worth while to watch it, because it is quite possible that the lining of the sac is in a state of catarrhal inflammation just sufficient to give rise to the cutaneous inflammation, and that we may yet see the sac fill up. The fact that the nostril upon that side is wet seems to show that the catarrhal difficulty gets vent into the nostril—that there is no stricture. Yet it is worth while to watch the sac itself.

Now, suppose that to-morrow we should find a distinct swelling in the region of the left lachrymal sac—a doughy, somewhat egg-shaped swelling extending up along and behind Horner's tendon—and upon pressure we should be able to cause to exude a little glairy fluid from one or both puncta, but not sufficient to empty the tumor—and no reasonable amount of pressure will be sufficient to press its contents down into the nose; suppose you make up your mind that you have to deal with a beginning abscess of the lachrymal sac, are you prepared to mark out a line of treatment?

One of the gentlemen answers, "I would slit up one of the canaliculi." That is correct; that is the rule, and it should be given with emphasis. It is not more than two or three weeks ago that I saw such a case, in which a good surgeon had made an external opening. Now, what is the objection to such an operation? The answer is a two-fold one: first, it will leave a scar, and the risk is taken of having a lachrymal fistula follow the incision. So you would no more think of making an external opening into the sac, than you would of opening into the bladder through the perineum, to let the urine out of a distended bladder, before trying to evacuate it through the urethra. The first attempt should be in the direction of emptying the bladder by way of the natural passage. Now, if an accumulation of material occurs in the lachrymal sac of this man's eye, and it cannot be relieved through the nasal duct or through the canaliculi, then you must cut into the sac by entering the natural opening, and, if needs be, enlarging that opening to enable you to effect a free entrance. You would then apply the well-established rules of surgery in the treatment of such cases, and slit up either the lower or upper canaliculus. I think it is better to open the lower one, because it is more easily reached. Then, having slit up the canaliculus, you should try to evacuate the contents of the sac through the opening made by your instrument.

But suppose the swelling of the skin and the subcutaneous connective tissue is so great over this distended lachrymal sac that you cannot get at the lower punctum, what should be your procedure then? I have seen such cases frequently. You wish to empty the abscess at the earliest possible moment, and how and where should the incision be made? One gentleman answers that he thinks we would be obliged to cut through the integument. The anatomy of the parts is about as follows: we have first the eyelids covering the eyeballs, and toward their inner extremities we have the puncta. Now, behind this angle, which is called the internal canthus, you have that little gland called the caruncle, and now, just in the crease between the caruncle and the angle of the eyelids there is nothing between the external world and the cavity of the sac but conjunctiva and the sac-wall. As the sac fills up with matter, its anterior wall is brought forward, the tendon of Horner's muscle is more or less stretched, and the sac bulges below and above it and is made prominent. Now, standing behind the patient who has such a lachrymal abscess that you are not able to enter the cavity through the puncta, you may take a knife, such as is known by the name of Beer's knife, or a bistoury such as is sold in the shops as Graefe's cataract-knife, and, holding the head firmly, poise the blade of the instrument flatwise, so as almost to be in contact with the cornea, pass it behind the internal canthus behind the angle where the lids come together, carrying the point inward and enter the sac, reaching it by making a slight wound. This wound usually heals readily, does not interfere with the canaliculi, and if it becomes fistulous it does no possible harm, because it is inside of the eyelids, and the sac empties itself inside instead of outside upon the cheek. I do not think you will find a description of this procedure in the books. Then, having emptied the sac, you may treat it afterward as the case may seem to require. You may subsequently slit up one or both canaliculi, in order to carry a probe into the sac; but never under any conditions cut into a lachrymal sac through the skin. You will meet with cases, probably, in which ulceration has gone to such an extent that the only thing which prevents the matter from coming out upon the cheek is a mere film of the cuticle, and with the finger-nail you can scrape through it; under these circumstances you may scrape through the cuticle, but never, in cases where you do not see the matter directly under the skin, make an opening into the lachrymal sac from the outside. There are two rules by which you should be governed in such cases: either enter the sac through a canaliculus, slitting up the canal if necessary, or open into it through the angle behind the canaliculus, just in front of the caruncle. I think that cutting into the sac through the cheek is in the highest degree objectionable.

CASE II.—*Stillicidium.*

This man complains of "water in his left eye," and he says it began "to run over" about a year ago. When he came under observation, it was observed that the lower lid was slightly everted, as it is now, and that there was stillicidium. Dr. Webster very properly slit up the lower canaliculus, carrying his incision as far backward as possible, and so cut through the wall close to the floor of the canaliculus, and yesterday he passed a probe on into the nose.

You must remember, in cases of stillicidium, to give directions to the patient to apply the handkerchief, gently pressing it toward the inner canthus when the tears are wiped away. If the eye is wiped outward and downward it tends to expose the conjunctival lining, causes it to become somewhat inflamed and swollen, and brings on such eversion as exists in this case. When the handkerchief is pushed toward the internal angle of the eye, sponging up the tears as it were, there is less danger of producing this condition of eversion.

The canaliculus is now open, and we will introduce Weber's probe and see if we encounter any obstruction. We will try the large end first, as it is always safe to do that, but it does not pass into the sac. We will next try the smaller end; it enters, and I now bring it into a vertical position. The end of the probe now rests on the bottom of the sac, and when it is in that position it is a wise thing to bring the thumb of the other hand up and feel for the sharp edge of the maxillary bone, and hold it there while the probe is passed through into the nose.

The thumb is brought up and held upon the sharp edge of the maxillary bone for the purpose of preventing the probe from breaking through the anterior sac-wall, and making a false passage over the edge of the bone and upon the outside.

In all these cases of catarrh of the lachrymal passages involving the canaliculi, the lachrymal sac, and the nasal duct, the mucous membrane is injected, and, not infrequently, more or less softened even in comparatively young subjects. And in many cases the lachrymal disease is made incurable by lack of caution upon the part of the surgeon; that is, as many a case of stricture of the male urethra is very seriously complicated or made incurable by incautious manœuvres of the surgeon. Nothing is easier in the male urethra than to make a false passage. It is the experience of all surgeons in cases of stricture of the male urethra that have passed through two or three hands, even of good general surgeons, to find one or more false passages. The temptation is so strong, when an obstruction is found, to overcome it, that it is almost irresistible. When you have a mound-like thickening of the mucous membrane standing up, down a little deeper, by the side of it, there will be a small crypt or fold of soft mucous membrane, soft like wet paper, and as you thrust the end of the instrument against this mound-like obstruction, which is tough and firm, it will be diverted into the little sulcus or fold-like pocket of soft mucous membrane, and through it passes into the submucous cellular tissue.

So I advise you, when you get the probe in this position, and are about to push it forward, to hesitate sufficiently to bring the thumb or finger up and feel for the sharp edge of the superior maxillary bone, allowing the thumb to overhang it slightly so as to steady the probe, and in that manner you will inflict the minimum amount of damage and the minimum degree of pain. I have in two cases removed a stile that was put in for disease of the lachrymal passages; but it had passed through the periosteum and was running down nearly to the ala of the nostril upon the outer surface of the bone.

My impression is that we shall see improvement in this case from the establishment of better drainage, and I would not resort to any further treatment for the present.

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A New Medical School in Russia.—A project for the creation of a faculty of medicine in the University of Odessa has been submitted to the Imperial Minister of Finance. The annual cost of the faculty is estimated at 127,000 roubles, and the construction of buildings at 600,000 roubles, of which the municipality undertakes to supply one-fourth.

Original Communications.

TRACHEOTOMY IN CROUP.

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This operation is still struggling for a place among the well-recognized life-saving procedures resorted to by earnest practitioners of medicine and surgery. It has still to contend with popular prejudice on the one hand, and, on the other, the incredulity of medical men, who, in this instance, will be satisfied with nothing short of uniformly successful results.

Tracheotomy is still opposed by many highly intelligent practitioners, in face of the fact that thousands are yearly dying in cities where is to be had the best medical skill, with every appliance needful to secure favorable results by medical means alone; and notwithstanding that a careful study of the history and statistics of the operation discloses the fact that life has been saved by it in many instances where without it death was inevitable.

Tracheotomy—or at least laryngotomy—was known, it seems, to the ancients, and practised to some extent prior to the Christian era, for Cœlius Aurelianus, in writing of a disease of the pharynx and larynx, which we can readily recognize as diphtheria or membranous croup, speaks of Asclepiades, a physician of the first century before Christ, as having performed the latter operation.

Coming down to modern times, we find that tracheotomy was suggested on theoretical grounds by Dr. Home, as long ago as 1765. Subsequently to this period the operation was performed a few times, but without success, until in 1782 John Andre of London saved by it the life of a girl five years old. This is the first successful case on record.

But the operation did not seem to be received with favor, for we notice nothing more concerning it until some time after the beginning of the present century, when it was revived in France through the efforts of M. Bretonneau, of Tours. He performed the operation first in 1818, then again in 1824, in both cases without success. In 1825 he performed tracheotomy for the third time, and this time successfully, saving the life of his patient. He afterward operated upon a child three weeks old, and under circumstances otherwise very unfavorable, with entire success.

Since the time of Bretonneau, the most notable operator has been his pupil, M. Trousseau, who performed the operation more frequently than any other practitioner of his time, and with the following results: Out of 150 operations, 26 per cent. of recoveries; 1851 to 1854 inclusive, 24 operations with 14 cures, 58 per cent. In the last of these years, 1854, he had 9 operations with 7 recoveries, over 77 per cent. His success seems to have been constantly growing, his latest operations, taken *seriatim*, showing the highest average of recoveries.

M. Trousseau was not only the most successful operator of his time, but he was also the most ardent and persevering advocate of tracheotomy that ever lived. In his last publication he says that "he is determined to preach tracheotomy, and that with the greater conviction in proportion as the success of the operation increases, and to urge it upon practitioners as a *duty*, a duty as imperative as the ligature of the carotid artery after a wound of that vessel, though death follows that operation as frequently as recovery."

Tracheotomy has also been performed a number of times in Paris by Gery, Robert, Guersant, Jr., and others with varying success. The records of the Hospital for Sick Children, in Paris, for twenty-five years, show 2,351 tracheotomies for croup, with 614 recoveries. Also those of the Hôpital St. Eugénie, for twenty-two years, show 2,312 tracheotomies for the same, with 509 recoveries. At the latter institution we find the percentage of recoveries constantly increasing from first to last, if we except a single year—1864—from 12 per cent. in 1854 to 40 per cent. in 1876. In all the hospitals of France, taken collectively, the average of cures by tracheotomy seems to be about 30 per cent.

The results of tracheotomy in England are generally spoken of as being less favorable than in France. Yet Sir Thomas Watson reports 14 operations at the Middlesex Hospital within eight years, 7 of which, or 50 per cent, were successful. In two of the seven fatal cases the condition of the patients was hopeless before the operation was attempted.

As to the success of the operation in our own country, we have no reliable statistics to offer, with the exception of the publication by Dr. A. Jacobi, of this city, giving the histories of 166 cases operated upon by himself and by Drs. Krackowizer and Voss, with 39 recoveries, rather less than 25 per cent. Also the following in the neighboring city of Brooklyn. Dr. L. S. Pilcher, of that city, has with commendable industry collected the histories of 121 cases of croup, in which tracheotomy was performed, with 24 recoveries. This is not quite 20 per cent. The cases, however, in which Dr. Pilcher was himself the operator, show better results. He had 5 tracheotomies, with 3 recoveries, or 60 per cent. This is second only to the practice of Trousseau in his most successful year.

True membranous croup, by common consent, takes its place among the alarmingly fatal diseases of childhood. The record of vital statistics of this city (New York) shows that during the year ending December 31, 1878, there were 499 deaths from croup. There were also in the same period 1007 deaths from diphtheria; a disease which, according to the views of some practitioners, covers all cases of membranous croup. I do not wish to be understood as saying that all the cases reported as deaths from diphtheria were caused by suffocation; but many of these were doubtless due to that cause; cases which by myself and some others would have been considered as true membranous croup. This would have swelled very materially the number set down under the head of croup.

The immediate cause of death in membranous croup is, in most cases, mechanical obstruction in the larynx or trachea, from the presence there of false membrane, either closing the passage entirely, or so narrowing it as to prevent the ready access of air to the lungs; hence death occurs from suffocation. Now, in the case of a foreign body accidentally introduced into the trachea, and lodged there in such a way as to produce strangulation, we do not hesitate to cut down to the obstruction and remove it, if possible; why then should we, in a case of suffocation from membranous croup, hesitate to make an opening into the trachea below the seat of the obstruction, so that the air may have free passage to the lungs, and thus afford relief to the patient? Even if the disease have already made such inroads upon the constitution, and the vital powers are so far spent that recovery is impossible; still the relief afforded to the child struggling for breath is so great and immediate that we hold it to be the duty of the humane physician, if he cannot save the life of his patient, to give it at least an easy and painless death.

It is true that tracheotomy has been opposed by some medical writers of standing and ability, among whom may be mentioned Drs. Williams, Cheyne, Stokes, Mr. Ryland and Mr. Porter in England; and by Drs. Dewees, Eberle, and Stewart in this country. The expression of opinion antagonistic to the operation by these gentlemen is not, however, unqualified; for Mr. Porter is willing to admit that he cannot say that there are no cases of croup in which tracheotomy would be useful and proper. Dr. Charles West, while not favoring the operation, hesitates to express a decided opinion against it. Dr. Meigs, "while feeling himself," as he says "entirely justified in recommending the operation under certain circumstances, does not still feel at liberty to urge it strongly upon the parents of the child. He would state to them candidly its chances for success and its risks, and if they should throw the entire responsibility upon him, act as though the patient were his own child, and *advise the operation*." On the other hand, most of the medical authors of a later date, especially those of the present day, favor the operation.

Although it is not to be denied that medical opinion is yet somewhat discordant upon this subject, still we may be allowed to say that this is merely a verification of the old adage, "that doctors differ." They differ upon other questions as well as upon this; and it is only after long, careful, and painstaking clinical research that the profession can be brought into substantial agreement upon any question of medical practice.

Another surgical operation at one time considered dangerous, and therefore unjustifiable, was ovariotomy. There are many things in the history of this operation which bear a striking resemblance to the history of tracheotomy. This, like that, was also advocated on theoretical grounds long before its performance was attempted in practice. It was thus suggested by Wm. Hunter in 1762. Such indifferent success, however, attended the operation at first, that for a time it fell into disrepute, until Spencer Wells, by a series of brilliant and successful operations, brought it again into favor. Even in his hands the results were far from favorable at the beginning; but each successive series of operations showed an increased number of recoveries over the preceding series, somewhat as did tracheotomy in the hands of Trousseau. Of the first series of 100 cases operated upon by Mr. Wells, 66 recovered; of the second 100 cases, 72 recovered; of the third 100, 77 recovered; and of the fourth 100, 78 recovered. It was the opinion of this surgeon that the mortality might, and in some future time would, be brought down to ten per cent. His prediction has been more than verified. The mortality was subsequently reduced by Mr. Keith, first to one in seven, and then to one in ten and one-half. But in the five years immediately following, by the employment of Lister's method in the operation, the fatality was reduced to one in twenty-one. Finally, by means of this, together with the introduction of the clamp and some other improvements well known to surgeons, of the last eighty-one cases operated upon by this eminent surgeon, every one recovered!

Now, we do not look for any such remarkable results as this last in the case of tracheotomy, at any future time, however remote. The fact that this operation has for its subjects, children, in many cases very young children, instead of adults, as with ovariotomy, would, of course, preclude the possibility of any results at all to be compared with this; but, from the constantly increasing success of the operation in the hands of its most experienced and best known performers and most enthusiastic advocates, we may venture to predict that the time will come, and is now fast approaching, when tracheotomy will be universally recognized as a proper, nay, an imperative life-saving operation. At least, so far as our reading of the latest authorities extends, medical opinion seems to point in that direction.

Prof. Aitken says: "The evidence is daily accumulating that tracheotomy ought to be resorted to much oftener as a remedy for croup than it has hitherto been, and that at a much earlier period in the disease." And in substantiation of his opinion he states that in a wild district of Scotland, where croup is alarmingly prevalent, Dr. Cruikshank saved eight patients out of eleven on whom he operated in two years, by the timely performance of tracheotomy. Dr. Condie says: "That it may, in many instances, when timely performed, save the life of the patient, we have the most unquestionable evidence." Dr. J. L. Smith: "Few will deny, in the light of statistics, that tracheotomy is, in certain cases, proper, and that the physician at times would be culpable if he did not strongly urge its performance." Dr. Squire, in "Reynolds's System of Medicine," says: "No degree of severity in the general disease should interfere with this mode of averting threatened death from asphyxia, unless the presence of some other complication, necessarily fatal, can be demonstrated." Dr. Austin Flint: "The propriety of the operation hinges not on the number of cases in which it has proved successful, but on the answer to the question, whether any lives are saved by it. Now, it cannot be doubted that patients have been snatched from impending death by this operation. It is, therefore, not only justifiable, but the practitioner is bound, if possible, not to allow patients to die from suffocation for the want of its performance."

The balance of testimony thus appears to me to be largely in favor of tracheotomy. But, independently of this, and influenced by a long and earnest study of the subject in all its bearings, I am forced to the conclusion that the operation is not only a practicable one, but one that is imperative; in many cases the only expedient that can hold out the least hope of saving life; and that in all such cases the practitioner who neglects to urge its performance is remiss in his duty to his patients. Governed by such considerations as these, I have not hesitated to advise tracheotomy when the circumstances seemed to me to demand it. I have myself performed the operation a number of times, with what success will appear in the sequel.

CASE I.—My first case was that of an adult, a woman twenty-one years of age, by occupation a cook, who came to me in 1860 with laryngeal catarrhal stenosis, and on the point of suffocation. She had lost her voice several days previously, and had suffered much during the time from dyspnœa, continually growing worse. For the twelve hours last previous to the operation which I performed, scarcely enough air was allowed to reach the lungs to support life. She had already been subjected to every variety of treatment usually adopted in such cases, but without relief. I therefore advised tracheotomy, believing that that, and that alone, could bring relief. It was, in fact, about the only thing in the way of remedial measures yet left untried. The consent of the patient being gained, I proceeded to perform the operation without further delay.

Dividing the integument and intervening tissue with a scalpel, I made an incision through the upper rings of the trachea, just below the crico-thyroid membrane, and inserted a double silver canula. Breathing at once became easy, and no complications followed. She remained under my care for about four weeks, and then returned to her work, still carrying in her larynx the canula, which, on account of the organic lesion which had taken place, she was never afterward able to dispense with, though she had on several occasions made the attempt. Fifteen years afterward she returned to me wearing only the inner tube of the double canula, the outer one having become so corroded that no further use could be made of it. I examined the inside of the larynx in the attempt to discover, if possible, any cause why the tube could not be dispensed with. I found the mucous lining and the vocal cords thickened, but the larynx otherwise healthy. After thoroughly satisfying myself that her life was unsafe without the canula, I enlarged the opening and inserted another, which I presume she still wears. She complains of no disability otherwise.

CASE II.—C. B——, a lad six years of age, not of a robust constitution, but still enjoying usually good health, came under my care on the evening of December 13th, suffering from fever and sore throat. Pulse, 120; temperature, 103°. Tonsils red and slightly swollen, a little whitish exudation on each of them. As the boy had taken a cathartic of castor-oil during the afternoon, and this had operated well, I at once proceeded with the following treatment: I placed a napkin wrung out of cold water around his neck, ordered the patient to be kept in bed, and to take every hour during the night a teaspoonful of the following mixture:

Tinct. ferri chloridi,	
Sodæ chlor.	āā ʒ j.
Glycerinæ.	℥ ss.
Aquæ puræ	℥ ijss.

December 14th, A.M.—The fever had abated, but the throat was worse. The exudation on the tonsils had spread, and was clearly of a membranous character. The same remedy was ordered to be continued, and a gargle, ʒ ij. chlorate of potash to a pint of water, to be used. In the evening hoarseness set in, followed during the night by a croupy condition. The case was now taking on a more serious aspect; I therefore ordered the temperature of the room in which the patient lay to be maintained at 70° to 80° F., and the atmosphere to be kept constantly moist with steam. These directions were faithfully carried out.

In the afternoon the croupy cough continued. An application of a strong solution of nitrate of silver was now made, by means of a probang, to the throat several times during the afternoon and evening. This seemed to lessen the symptoms and check the exudation of membrane.

December 15th, A.M. — Seems better, but still croupy; pulse about normal; temperature 101°. On the night of the 16th patient grew suddenly worse, suffocation at times threatening. Membrane had extended to the larynx, and involved the vocal cords.

December 17th, morning.—The remedies hitherto employed having failed of their intended effect, I re-treated to the last position. Assisted by Dr. D. F. Leavitt, who put the patient under the influence of chloroform, I opened the trachea through the upper rings, and introduced a double canula of silver. This gave instant relief by liberating a large amount of mucus and membranous exudation which was loose in the trachea, allowing free access of air. The room was kept at a temperature of 75° to 80°, a sponge wrung out of hot water was placed upon the opening of the canula, and close attention given to keep the tube free. On the eighteenth day the tube was removed and the opening allowed to close up. I had made an effort, both on the eleventh and twelfth days after the operation, to remove the tube, but the larynx was not yet free. Recovery was attended by a sensitive condition of the optic nerve, which in a few months passed away, however, and the lad is now healthy and vigorous.

Case III.—C. B——, a girl four and a half years old, sister of Case II., was seized 15th of the same month, that is, two days afterward, with fever, followed by hoarseness and croup. As the other remedies had failed in her brother's case, turpeth mineral was given as an emetic, and for its alterative action; but to no purpose. On the 21st suffocation became so imminent that I decided to open the trachea, which, with the assistance of Drs. Leavitt and Irving, I did. The relief afforded by the operation was only temporary, as the false membrane had extended below the opening made, even to the larger bronchi, and to the lungs. On the 24th the patient died.

Case IV.—W. C——, a little boy, aged four years and a half. Was called to see him January 22, 1875. Had been hoarse for several days. Pulse quick, temperature 101°. Tonsils and posterior fauces slightly red. Could not discover any false membrane at first, but inferred from the history of the case that there must be false membrane, and afterward found it in the larynx and trachea. At 10 P.M. the dyspnœa had increased to that degree that his life depended upon the immediate performance of tracheotomy. Drs. Cremin, Schoonover, and Leavitt being present, by their approval, and with their assistance, the operation was at once performed, as described in Cases II. and III. The usual relief of breathing followed, and, with the exception of an attack of pneumonia on the upper right side, convalescence was uninterrupted. The canula was removed from the trachea on the seventeenth day, and on the twenty-second day the opening closed. No sequelæ in this case.

Case V.—M. D——, a male child, eighteen months old, came under my care on the night of April 15, 1875, with croup. Membrane visible on the tonsils and the sides of the pharynx, and had evidently descended to some extent into the larynx. On the 16th it became evident that the usual treatment had failed, and the dyspnœa had now become so great that death threatened from suffocation. I accordingly advised tracheotomy, and with the approval of Drs. Cremin, Schoonover, and Leavitt, I opened the trachea and introduced a double canula, which gave instant relief. The case progressed favorably. On the fifth day everything promised well. As the parents and nurses were of the laboring class, and not fully alive to the special care required in such cases, not aware of the great importance of keeping the tube free, I made it a practice either to call myself or send my assistant every night shortly after midnight, in order to be fully assured that all was going well. My assistant accordingly called at about two o'clock on the morning of the 6th, and found the attendants asleep, the tube filled with dry mucus, and the child dead. I examined the trachea below the opening made and could find no false membrane, nor even mucus. With greater vigilance on the part of the attendants this case would, without doubt, have recovered.

Case VI.—S. J——, a male child, three and a half years old. Was called in October 12, 1875. Found the patient suffering from true diphtheria. His nares lined with membrane, and an acrid discharge flowing from them. Tonsils and uvula also enveloped by membrane, and the cervical lymphatics considerably swollen. On the fourth day of my attendance the false membrane had extended so as to surround the rima glottidis, and was producing dangerous stenosis. To prevent immediate suffocation, with the approval of Drs. Leavitt and Schoonover, I opened the trachea and introduced a canula, which had the effect of permanently relieving the difficulty of breathing. The patient, however, died five days afterward in convulsions from uræmic poisoning.

Case VII.—J. S——, a male child, two and a half years old. Was called in to attend it on the evening of July 11, 1876. He had been ailing for several days; hoarseness had commenced the preceding day. On examining the throat false membrane could be plainly seen on the tonsils and on the mucous membrane surrounding the glottis. I applied an astringent to the affected parts, such as I had found of great value when the false membrane did not extend to the larynx. This was:

Liq. ferri. sulphatis	ʒ j.
Glycerinæ	℥ j.

Misce.

I also ordered lime to be slaked in the apartment, so that the patient could breathe its fumes. In addition, I ordered the bromine solution recommended by Dr. W. H. Thomson of this city, to be taken internally. But all these measures failed to give relief. On the morning of the 13th, when death was about to close the scene, with the assistance of Dr. R. C. Irving, I performed tracheotomy as above described. The patient was relieved for the time, but four days later he died, the false membrane having in the mean time extended to the bronchial tubes. The circumstances and surroundings of this case were highly unfavorable to its recovery; the apartment in which he lay had no ventilation to speak of, and was badly kept in all respects.

Case VIII.—A. H——, a little girl, five and a half years old, came under my care July 8, 1877, suffering from sore throat and nares. Patches of false membrane were to be seen on the tonsils and fauces. These were dissipated by the repeated application to them, by means of a throat-brush, of the solution of persulphate of iron and glycerine, in the proportions before ordered. On the 11th, symptoms of croup appeared. These increased, notwithstanding all ordinary means were taken to prevent—increased so rapidly and to such an extent, that by the morning of the 13th tracheotomy had become urgently necessary. With the assistance of Drs. Schoonover and Perham the operation was performed, and a double silver canula introduced. In this case the difficulty of keeping the tube from clogging up with plugs of dried mucus and shreds of false membrane was so great, the child being also very weak, often unable to bear the feeblest coughing, that to relieve this I resolved to apply to the inside of the trachea, by means of a feather, through the canula, the mixture of persulphate of iron and glycerine, for the threefold purposes of: 1st, coagulating the loose mucus in the tube, so that the child might the more easily free it by coughing; 2d, in order that the false membrane on the tracheal surface below the tube might be shrivelled, and thus be more easily detached; 3d, that the mixture might act as a local astringent to the inflamed surface which produces the false membrane, thereby changing it to the extent that it may cease to produce it. In this case and in the subsequent cases, this application seems to have fulfilled the requirements perfectly. After relief was thus obtained, the patient, with some suffering and distress, went through convalescence uninterruptedly, and is at the present time a well and healthy girl. In this case the canula was removed on the sixteenth day.

Case IX.—J. M——, male, thirty months of age. Was called to see him December 29, 1878. Found him in charge of Dr. Bleything, who had been in attendance for thirty-six hours previously. The doctor stated that the croup was well advanced when he first saw the patient, and that the membrane lined the fauces, and had already entered the larynx. He had thoroughly tested upon the patient the effect of breathing the fumes of slaking lime. It did not seem to give relief. I advised tracheotomy, and we proceeded to perform the operation forthwith, as the child seemed about to suffocate. The canula being introduced, relief was at once obtained. I continued to attend the case in association with Dr. Bleything, he attending to the details of the treatment. As in Case VIII., the persulphate of iron and glycerine was applied with the same good results, both to the fauces and to the throat, through the tube. The canula was removed on the twenty-fourth day, and convalescence went on uninterruptedly; recovery complete. I would here state that this same child was seized ten months afterward with the same species of croup and died, the parents refusing to have the operation again performed, on account of the trouble and anxiety that the former operation had caused.

Case X.—A. S——, a girl, six and a half years of age, was taken with croupous laryngitis, and was treated with the usual remedies, which failed to give any but the most temporary relief.

March 2d, a.m.—Death seemed imminent from suffocation. I therefore, with the advice and assistance of Drs. A. H. Smith and D. W. Perham, opened the trachea and introduced a silver canula. This gave the desired relief at once. The subsequent treatment was about the same as in the two preceding cases. The mixture of persulphate of iron and glycerine was freely used. Canula removed on the eleventh day after the operation. Recovery in this case took place slowly, but in the course of six weeks was full and complete.

Case XI.—J. S——, a lad, six and a half years old. I visited him first on March 7th, p.m. He had been hoarse for two days previously, and croupy for the past twenty-four hours. There was no false membrane visible on the tonsils or fauces. I was at first inclined to think the case one of catarrh, and to treat it accordingly; but on the morning of the 8th the croupy symptoms had become graver, and the membranous character undoubted. Suffocation threatened at times, and at 12 m., consulting with Dr. E. S. Bates, whose patient it was, I advised tracheotomy as the only means left that afforded any chance of relief, to which he assented. Dr. Gerster was also called in, who accorded with us in opinion. At 2 p.m., assisted by Drs. Gerster and Bates, I performed the operation. There was a little more hemorrhage than usual in this case, on account of the turgid condition of the veins, due to the spasmodic attack of suffocation which the anæsthetic did not fully relieve. The dyspnœa was relieved in a few seconds, and all distress allayed. The question as to its membranous character was settled by the patient's coughing up through the tube a membranous cast on the third day and shreds of the same on several occasions afterward. In this case Dr. E. S. Bates was associated with me until convalescence was fully established. The treatment was essentially the same as in Cases VIII., IX., and X. Tube was removed on the ninth day after the operation. On the third day after the removal of the tube several slight hemorrhages took place from the inside of the trachea, which created some alarm, but which were easily controlled by the astringent solution of iron and glycerine applied by means of a feather to inside of the trachea; also by the use internally of the fluid extract of ergot, six drops every two hours for twenty-four hours, and the application of ice to the neck by means of a rubber pouch. When the closure of the wound in the trachea was complete, all hemorrhage ceased.

The foregoing is the record of eleven tracheotomies done in my practice, with seven recoveries. With the exception of the first case on the record, the subjects were all children of tender age, about to die with membranous croup. I say, without hesitation, about to die, for subsequent conditions have confirmed this belief. This is about 66⅔ per cent. of the whole number, or 60 per cent. of the children. I will also state in this connection that of those who died, not in a single instance was death the result of the operation, either directly or indirectly; that in every instance life was prolonged and the most distressing symptoms mitigated. But for the accident or carelessness in Case V., I have reason to believe that I should most certainly have had one more to add to the successful cases of tracheotomy, which would have brought the percentage up to 72⅔. In all cases of children operated upon, where recovery took place, the opening made into the trachea closed up in three or four days, so that no air could pass, and it healed perfectly in about fourteen days after the removal of the canula. In some cases, however, slight granulations on the outer side appeared during the process of closing, but these were readily reduced by a few applications of sulphate of copper.

Rules and Requisites.—1. To operate as soon as I find that suffocation threatens, and that medical agents will not be likely to afford further relief.

2. To place the patient under the influence of chloroform, the anæsthetic which I prefer in these cases. Then provide and arrange for use the following instruments and articles: several towels, sponges, a basin of hot and one of cold water, a curved bistoury, two small scalpels, a director, an artery-forceps, plain dressing-forceps, two pairs scissors, a tenaculum (Langenbeck's, modified by straightening the hook), several goose-quills, well feathered. silk ligatures, and a double silver canula, armed with a tape long enough to reach around the neck of the patient, and tie.

3. Lay the patient on a table two and one-half feet in height, about the same in width, and long enough for the patient to lie at ease. and so placed that the light may fall upon the part to be operated upon.

4. Remove all clothing from the neck and chest, and place under the back of the neck a cylindrical body of say three to three and one-half inches in diameter and about ten inches long, wrapped in a towel, so that the head may fall backward, and thus throw the trachea upward, producing at the same

time some degree of tension of the tissues through which the incision is to be made.

5. To take up, between the thumb and index finger of the left hand, the integument overlying the part of the trachea through which the opening is to be made, and divide it with a sharp-pointed curved bistoury, and then, on the median line, work through the tissues and fascia down to the tracheal rings, by means of the finger-nail, director, and scalpel.

6. To open the trachea through the upper rings, paying no attention to the isthmus of the thyroid gland, commonly dividing it, unless it is found to be unusually large, in which case I would advise that it be pushed downward out of the way. Reasons for so doing will be given farther on.

7. To effect the opening in the trachea, I fix it by means of a strong tenaculum thrust through one of the tracheal rings, just below the crico-thyroid cartilage, and hold it firmly until I make the opening and place the canula in the new-made air-passage. This tenaculum I have modified so that it will divide with a slide, and open the trachea as my knife passed through the rings downward from it, thereby dispensing entirely with the use of retractors. This tenaculum is, I have learned since I had it made, a modification of Langenbeck's.

8. When the tube is once in place, and fastened around the neck by means of the tape, the next step is to free the parts of all blood and mucus, and whatever may be in the way, and to keep them so by the frequent removal and cleansing of the inner tube.

9. Replace the patient in bed. Keep a small sponge, wrung out of warm water as frequently as possible, over the canula. The atmosphere of the room ought to be maintained at a temperature of about 80°, and loaded with steam from boiling water containing lime.

10. To make application through the tube, by means of a soft feather taken from the tail or wing of a hen, of the solution of iron and glycerine beforementioned to the inner surface of the trachea. This may be done as often as every two or three hours during the day. This application has doubtless been an important factor in the good results obtained in the last four cases.

11. To remove the canula when the air can pass and repass through the larynx freely. This is easily determined by occluding temporarily the outer tube, or by removing the canula entirely for a few moments, and closing the artificial opening.

12. Give attention to the diet. Let it be mainly fluid in character, highly nourishing, and easily digested and assimilated. Let it, too, be given in small quantities and at frequent intervals. Have the bowels moved at least once a day, either by injections or cathartics.

13. Allow the opening in the trachea to close of itself, without any aid from adhesive plaster, compresses, or any such agents as might force the granulations to the inner side of the trachea. Should granulations spring up in the wound after it has closed, after it no longer admits air to pass and repass, apply a little powdered sulphate of copper once a day for several days, protecting the neck by means of a soft silk handkerchief tied around it.

In support of the operation above, and when necessary, through the isthmus of the thyroid gland, we quote from Linhardt, who opposes the making of the incision below this point, and says: "Not only on account of hemorrhage, but because of the entry of air into the left innominate vein, is injury of the infra-thyroid, if not actually fatal, yet one of the most dangerous accidents. Besides this, the trachea is frequently very deeply seated, and between it and the muscles arising from the sternum, there is so much cellular tissue that, in opening the trachea, a general emphysema is produced." This condition I once saw follow this operation, and when one of our most skilful surgeons was the operator. Death ensued, not from the operation, but from general emphysema. Dr. Jacobi reports two cases of death from the same cause. The introduction and fixation of the canula is also more difficult here. Hyrtl—Zeigliederungskunst—says: "Objection, too, is made to operating here on account of the danger of section of the laryngeal artery, which, though in size is out of proportion to the size of the larynx, is still only a branch between the superior and inferior thyroid arteries. The laryngeal artery, therefore, if not exactly parallel, runs in the same general direction as the contemplated incision, and does not, at any point, cross that line, nor is the line of incision crossed by any other important vessel; these considerations, together with the slight vascularity of the larynx, will point to this locality as the most appropriate one for the performance of tracheotomy." In practice I have found this opinion, based on the above anatomical reasons, to be correct.

The mixture of persulphate of iron and glycerine, which I apply to the inner surface of the trachea, I consider a very essential part of the treatment. Its salutary effect in the last four cases given above was remarkable, and contributed not a little, in my opinion, toward the recovery of the patients. It has the effect to coagulate the secretions poured out on the mucous surface of the larynx and tonsils; besides that, its astringent effect also extends to the underlying vessels, from which the secretions are derived, thus lessening their quantity.

A warm atmosphere, so 80° F., moistened with steam, charged with the fumes of slaking lime, has a very soothing effect, and I am inclined to believe that, when well applied, is more likely to give relief in membranous croup than any other remedy of a non-surgical nature known to the profession. I have a number of cases on my list which were doubtless going on rapidly to the stage where surgical interference would became necessary, but in which the disease was checked by its timely and faithful application. The mode adopted in administering the steam most effectively is to construct over the bed of the patient a tent-like enclosure, and keep the space within, where the patient lies, filled with the vapor of boiling water containing lime, and keep this up unremittingly, night and day.

It should be well understood that tracheotomy is not curative of croup: only a means of continuing life by preventing suffocation. Mechanically the continuance of medical treatment after the operation ought to be essentially the same as before it. This we wish to press with some degree of insistence, for we feel assured that harm has often resulted from the premature suspension of the treatment before the disease had been cured or had run its course. The keeping of the canula free by the frequent removal of the inner tube, and cleansing it from the mucus constantly discharging from it, is troublesome and requires the utmost care. For, should occlusion of the tube at any time occur, and it be not immediately cleared, the death of the patient would be the inevitable result, an accident which, as we have already seen, happened in one of my cases from the attendant falling asleep at a critical moment.

In order to obviate the difficulty just alluded to, attempts have been made to keep open the incision made into the trachea without the use of the canula. In order to effect this, Prof. Pancoast, of Philadelphia, after making the incision, cuts out a small triangular piece from one of the tracheal rings. This method is objectionable, however, on account of the contraction which takes place upon the healing of the orifice, thus lessening the caliber of the tracheal tube.

Dr. Martin, of Boston, however, has a plan which I think better of, and which I am disposed to try at the earliest favorable opportunity. He binds together the severed edges of the tracheal rings and the overlying integument by a single suture on each side of the incision. The ends of the thread with which the sutures have been made are left of a sufficient length to attach to the ends of an elastic band going around the neck. When fastening the bands, sufficient tension is made to separate the edges of the incision in front, and the band by its elasticity yielding so as to accommodate itself to any change in the size or situation of the parts produced by breathing or by the expulsion of extraneous products from the air-passages through the opening. The application of local treatment is also more readily accomplished when there is no canula in the way.

I am indebted for a part of the ancient history of tracheotomy to an unpublished manuscript of Dr. A. Jacobi, on Diphtheria. Also to Dr. E. C. Spitzka for some translations from the German authors quoted in the text.

155 East Fifty-first Street, New York.

A CASE OF SECONDARY PERITONITIS,

Treated with Enormous Doses of Morphia.

By ROBERT MILBANK, M.D.,
LATE HOUSE PHYSICIAN IN BELLEVUE HOSPITAL, NEW YORK.

Kate L——, æt. 22, married, domestic. Admitted to Bellevue Hospital, January 9, 1880. Patient's previous history and that of her family unimportant. She had never used opium or any of its alkaloids. Had always enjoyed good health until January 4th, when she had slight rigors, recurring several times at irregular intervals until January 7th. On that day she went out, and began to suffer from abdominal pain. On the following day she aborted, being at that time at about the fourth month of pregnancy. Since then has had constant and severe pain over the entire abdomen. Has had some diarrhœa and occasional epistaxis. Has not vomited. On admission, physical examination of her chest gave negative results.

Her abdomen was tender and painful, and somewhat tympanitic. There was a slight muco-sanguineous discharge from the vagina. Her tongue was dry and dark, and sordes were on the teeth. Rectal temperature, 105°; respirations, 23. I ordered sol. morph., U. S., ℥ j. hourly until pain subsided or respirations should be lowered to 12.

January 10.—Abdomen growing more tympanitic, pulse, 120, hard and small. Her respirations did not diminish in frequency, although she had the morphia hourly. Her temperature was 105°. She now had sp. vin. Gall., ℥ ss. q. 2 h. Turpentine stupes over the abdomen, and I ordered the nurse to give Magendie's solution, ♏x. q. 1 h., until her respirations should fall to 12. She received in this way ʒ iij., ♏ l. Magendie's solution, or seven and two-third grains morphia in the twenty-four hours.

January 11.—Her abdomen had become more tympanitic; pulse rather better; temperature, 104°; respirations, 19. Her mental condition was clear. On this day I ordered Magendie's solution hypodermically as before, increasing the amounts as indicated by respirations. She received, therefore, Magendie, ʒ iv., ♏ xxx., or grains ix. of morphia in the twenty-four hours, and sp. vin. Gall., ℥ ss. q. 2 h.

January 12.—Patient's condition about the same, except an extensive bronchitis which has set in. Temperature, 102°; respirations, 18. She received ʒ v., ♏ xl. Magendie's solution hypodermically, or eleven and one-third grains morphia in the twenty-four hours.

January 13.—Temperature, 104°; respirations, 20. Magendie hypodermically, ℥ j., ʒ v., or grains xxv. in the twenty-four hours.

January 14.—Temperature, 103½°; respirations, 22. Magendie hypodermically, ℥ j., ʒ iij., ♏ xl., or grains twenty-three and one-third in the twenty-four hours.

January 15.—Temperature, 102°; respirations, 23. Magendie hypodermically, ℥ j., ʒ iv., ♏ xx., or grains twenty-four and two-thirds in the twenty-four hours.

January 16.—Temperature, 101°; respirations, 25. Magendie hypodermically, ℥ j., ʒ xj. ♏ xl., or grains twenty-nine and one-third in the twenty-four hours.

January 17.—Temperature, 102¾°; respirations, 26. Magendie hypodermically, ℥ iij., ʒ vij., or grains lxij. in the twenty-four hours.

January 18.—Temperature, 102½°; respirations, 30. Magendie hypodermically, ℥ iij., ʒ vi., or grains lx. in the twenty-four hours.

January 19.—Temperature, 100½°; respirations, 26. Magendie hypodermically, ℥ iv., ʒ iij., ♏ xv., or grains lxxss. in the twenty-four hours.

January 20.—Temperature, 101°; respirations, 28. Magendie hypodermically, ℥ iv., ʒ iij., ♏ xv., or grains lxxss. in the twenty-four hours.

January 21.—Temperature, 100°; respirations, 27. A solution of morphia, double strength of Magendie's solution, grains xxxij. to ℥ j., was now given by the stomach; ℥ ij., ʒ vi., or grains lxxxviij. being given in the twenty-four hours.

January 22.—Temperature, 101°; respirations, 27. Tympanites much diminished, pulse slightly irregular when excited; countenance bright; slight delirium at night; regular passage from bowels every day. Double Magendie's solution by stomach, ℥ iij., or grains xcv. in the twenty-four hours.

January 23.—Temperature, 99½°; respirations, 26. Double Magendie's solution, ℥ iij., ʒ v. by stomach, or grains cxvj. in the twenty-four hours.

January 24.—Temperature, 99¾°; respirations, 20. Bronchitis nearly cleared up. Respirations increasing during the day. Morphia has been given in larger doses. Double Magendie's, ℥ iv., ʒ iij., or grains cxl. by the stomach.

January 25.—Temperature, 100½°; respirations, 21. Double Magendie's solution hypodermically, ℥ iij., or grains xcvj. in the twenty-four hours.

January 26.—Temperature, 101½°; respirations, 17. Double Magendie's solution hypodermically, ℥ ij., ʒ v., or grains lxxxiv. No movement from bowels for three days. Subsultus tendinum present.

January 27.—Is quite delirious, with constant muscular twitching. Has had slight epistaxis for four days. Tympanites has nearly disappeared. Temperature, 101¼°; respirations, 17. Double Magendie's solution, ℥ j., ʒ j. hypodermically, or grains thirty-five and two-thirds in the twenty-four hours.

January 28.—Temperature, 100½°; respirations, 19. Bowels not having moved, ℥ ss., ol. ricini given. Respirations increasing during day. Double Magendie's solution hypodermically, ℥ iij., ♏ vi., or grains ninety-six and two-fifths in twenty-four hours were given.

January 29.—Large movement from bowels. Patient much brighter and better. Tympanites but slight. Temperature, 102°, respiration, 21. Double Magendie's solution hypodermically, ʒ vi., ♏xv., or grains xxv. in the twenty-four hours.

January 30.—Temperature, 101½°, respirations, 21. Double Magendie's solution hypodermically, ʒ v., ♏xx., or grains twenty-one and one-third in the twenty-four hours.

January 31.*—Temperature, 101¾°, respirations, 19. Double Magendie's solution hypodermically, ℥ j., ʒ ij., ♏xxx., or grains xlij. in the twenty-four hours.

From this time patient steadily improved in all respects until February 25th, when a tumor made its appearance just below the free border of the ribs, in the axillary line of the right side. It was poulticed, and on February 28th, fluctuation being felt, I opened it and ℥ viij. of fetid pus mixed with blood were removed. The abscess was extensive but superficial. During this time the doses of morphia were being reduced, until March 1st, when she received Magendie's solution, ʒ ss. in the twenty-four hours.

On March 5th she commenced to menstruate, and continued to do so for a day and a half. She had occasional attacks of pain, and on March 16th received Magendie's solution hypodermically, ʒ ij. in the twenty-four hours, and up to this time has received altogether ℥ iij., grains xiij. morphia sulphat.

March 24.—Is now sitting up every day.

May 29th.—All morphia discontinued.

July 1.—The abscess, which has remained open and been discharging, has closed.

July 30.—Menstruated.

August 23.—Discharged cured.

Is now performing the duties of waitress in a restaurant.

The wide variations in the doses of morphia are accounted for by the fact that her respirations occasionally varied in a correspondingly irregular manner.

The points to which I desire to draw particular attention are:

1st. That the patient had never used morphia before her admission to the hospital.

2d. That the doses of morphia were increased with great rapidity without producing the full physiological effect of the drug.

3d. That they were decreased as the indications for their use diminished, with almost as great rapidity.

4th. That they were finally discontinued entirely without suffering to the patient.

5th. That but one small abscess in the arm was caused by the use of the hypodermic needle (and I think that could have been avoided), attributable, doubtless, to the fact that it was plunged deeply into the tissues, being really intramuscular rather than subcutaneous.

6th. That the mode of administration of the morphia was changed from hypodermically to adminisration by stomach, and back again to hypoderminically, without varying its effects upon the patient.

The tolerance for morphia in one unaccustomed to ts use seemed to point clearly to the need for it in such large doses, and if anything were necessary to add to the weight of evidence as to the freedom with which morphia may be used in this disease, as taught us by Dr. Alonzo Clark, I think this case would go ar toward furnishing such proof.

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* Dr. Delafield visited until February 1st, Dr. Jacobi visiting from hat date until April 1st.

Progress of Medical Science.

Two Cases of Intestinal Obstruction Successfully Treated by the Application of Electricity.—Electricity has not hitherto enjoyed a wide range of applicability in the treatment of intestinal obstruction, although several cures have been reported to have followed its employment. Dr. M. Boudet, of Paris (*Le Progrès médical*, August 14th and 21st, 1880), reports two new cases, which were apparently saved—one from imminent death, the other from the doubtful chances of a dangerous operation—by the use of this new therapeutic agent. The report of his cases is additionally interesting from the fact that he employed the constant current, whereas others have, as a rule, chosen the method of faradization. His first case was that of a girl, aged 15, who was attacked by an acute peritonitis, which soon became general, and confined the little sufferer to her bed for about a month. During convalescence she was suddenly seized with severe abdominal pains, and began to vomit profusely. Her pulse grew small, rapid, and feeble, her facial expression became pinched, and all rectal evacuations ceased. Soon her abdomen became tender to the last degree, and it was now no longer doubtful that the gut was obstructed by peritoneal bands or adhesions. After unsuccessful attempts to effect a cure by ordinary treatment, the application of electricity was commenced. The negative pole was placed in the rectum, and the positive pole upon the umbilical region, which appeared to correspond to the site of the obstruction. Visibly energetic contractions of the intestine were thus produced, and the treatment was persisted in, although the first trials did not appear very encouraging. Two days later, after an attack of intense painfulness in the umbilical region, a rectal evacuation followed the application of the constant current. From this moment convalescence was established, and rapidly progressed to perfect health. The use of electricity had been prolonged over an hour at each sitting, and had been repeated several times during every twenty-four hours.

Case II. was one of obstruction by accumulation of fæcal matter in a man aged 60, who was a sufferer from chronic constipation caused by intestinal paralysis. Prof. Gosselin, who was called in consultation, advised an operation, but consented to a previous trial of electricity. Accordingly, Dr. Boudet introduced a uterine sound into the rectum, connected this with the negative pole of a battery (Gaiffe), and placed the positive pole on the abdomen. The current was gradually increased, and after twenty minutes, when fourteen elements were in action, gurgling sounds were heard, which proceeded from the contracting intestine. Now the current was interrupted, and for ten minutes more the abdomen was subjected to faradization. Similar treatment was maintained for several days, during which time the patient visibly improved, and at last completely regained his health.

In the remarks appended to the description of these two cases, Dr. Boudet observes that electrical excitation evidently produces intestinal contractions, and that the movements of the gut may suffice to cause the reduction of a volvulus, invaginations, or strangulations. Matters occupying the lumen of the digestive tract may also be discharged by this means. The physiological researches of Duchenne, Legros, and Onimus, of Tripier, and Heurot, all speak in favor of this view. Continuous and permanent currents are therefore recommended for the treatment of intestinal obstruction, especially when there exists a condition of paralysis or paresis of the gut. The induced current may, nevertheless, be employed to aid self-reduction, by its action upon the abdominal muscles, exciting them to violent contractions. This shows that a single method of applying electricity will not answer in every case of intestinal obstruction, the variations depending upon the differences in the nature of the occlusion, differences which have special indications in every given case. Finally, attention is drawn to the fact that initial failures should not discourage one from the repetition of electrical treatment.

Ten Cases of Litholapaxy.—Dr W. W. Greene, Surgeon to the Maine General Hospital, reports ten cases of litholapaxy, and supplements his account of them by some explanatory statements. All the patients were thoroughly etherized. None of the cases, except the tenth, gave any evidence of renal disease. In all but this case the urine was previously analyzed and the capacity of the bladder approximately estimated. In each of the nine cases of litholapaxy consent was obtained and arrangements made for immediate lithotomy in case of failure, from any cause, to complete the litholapaxy. In five out of the nine cases, slitting of the external meatus was necessary. It was noticeable that in no case was the operation followed by cystitis or septicæmic fever. In the first six cases some of his familiar lithotrites were used (Civiale's, Thompson's, Teevan's, and Mercier's). In the seventh, eighth, ninth, and attempted tenth, Bigelow's instrument was used. Dr. Greene believes that, in the hands of a skilful surgeon, any good lithotrite may do the crushing satisfactorily in litholapaxy. Still, he prefers Dr. Bigelow's instrument to the others, for reasons clearly stated by the latter in his monograph. But even this lithotrite will sometimes clog or hold fragments unless the surgeon is very careful. In each of the first nine cases reported, the bladder was completely emptied at one operation, and the patients all remained free from any symptoms of calculus up to the date of the report. In no case did incontinence or any other unpleasant consequence follow the use of the large tubes. In no instance was there but the most trifling hemorrhage—the tenth case gave much more than all the rest—and in four cases not a drop of blood was seen from first to last.—*Reprint from the Boston Medical and Surgical Journal*, 1880.

Locomotor Ataxy and Cardiac Lesions.—At the general hospital of Montpellier, Dr. Grasset, *Gaz. méd. de Paris*, Aug. 21, 1880, had occasion to observe manifest cardiac symptoms in conjunction with two cases of locomotor ataxy. (*Montpellier Médical*, June, 1880.) The question arose whether this was merely an accidental coincidence, or whether the two lesions stood in causal relation with each other. In 1879 Berger and Rosenbach (*Gaz. méd. de Paris*, p. 459) reported seven cases of aortic insufficiency occurring in ataxic patients. To this number Grasset was able to add fifteen other cases, where a cardiac lesion existed together with the affection of the cord. In most of these cases, as also in the two observed by himself, the form of the disease had the painful type (forme douloureuse). This circumstance led the writer to believe that a direct action of the cord on the heart did not take place. In his opinion the cardiac troubles are a secondary manifestation proceeding from the reflex action consequent upon the painful sensations. He supports his views by calling to mind the recent investigations of French and Teissier fils, who demonstrated the marked influence that excitation of sensory nerves exercises on the circulation and respiration. Potain's studies are also alluded to, studies which established the fact that gastro-hepatic disorders may cause, in a reflex manner, disturbance of the right heart. Intense, prolonged, and frequent pains, have, according to Grasset, a direct effect on the heart, thus disturbing the circulation and giving rise to lesions. For this reason locomotor ataxy may prove the reflex cause of cardiac trouble, not because it is a disease of the spinal cord, but because it is a painful affection. Considering the small number of such observations, as contrasted with the frequency of cardiac disease, all such theoretical explanations must be received with great reserve. We certainly need more extended and fuller observations before we can accept this new pathogeny as a solution of this interesting coincidence of the two morbid conditions.

Progress in the Treatment of Stricture of the Urethra.—Some remarks were made on this subject by Sir H. Thompson, at the annual meeting of the British Medical Association, in Cambridge, August, 1880. As illustrations of this advance during the last thirty years in England, the doctor mentioned five points:

1. A general recognition of the principle that a delicate and gentle manipulation of any instruments in the urethra is alone trustworthy or permissible, in the place of that which was formerly greatly prevalent, viz., that urethral obstruction might often be overcome mainly by force.

2. The substitution of very pliable and taper instruments for silver and stiff gum-elastic instruments in much of the treatment, both in ordinary and in continuous dilatation.

3. A more general acceptance of the doctrine that, given time, patience, and gentle handling, very few strictures should be met with which cannot be fairly and successfully traversed by an instrument passed through them into the bladder. At the same time, an undoubted improvement is to be noted in the mode of operating for those exceptional cases in which the surgeon fails to accomplish that object.

4. A more general acceptance of the doctrine that dilatation of the urethra, whether with or without incision, may be carried with advantage to a somewhat higher degree than had for some time previously been regarded as desirable.

5. The substitution of internal urethrotomy in some form for the application of caustics, and for external urethrotomy on a guide. Each of the topics named is then considered somewhat in detail. In connection with the subject of the "calibre," or "diameter" of the urethra, or the amount of its dilatability, he refers to Dr. Otis's revival of the theory of "the large diameter of the urethra." He records his sense of the value of this point, but he adds that "it is a very easy thing to damage irreparably some individuals by overdistending the urethra." Thompson also opposes another doctrine which is associated with the preceding, viz.: that stricture of the urethra is permanently cured by complete division of all the diseased tissues affecting the passage. In speaking of the many methods of performing internal urethrotomy, he says that the principles which govern a sound procedure are more essential points for the surgeon to discover

and to teach, than a consideration of small details. These principles he briefly states as follows: 1. The necessity for a physical examination before operating, to detect and estimate the narrowed portions of the urethra. This is best accomplished, in his opinion, by means of a series of metal bulbs on slender stems, taking care not to regard as changes of disease those points at which the urethra itself is naturally only slightly dilatable. These bulbous exploring sounds he invariably used, advocating them as essential to diagnosis, in his first work twenty-six years ago. He still prefers them to any others, as safer, less irritating, and not less efficient than more complex instruments which have been devised. 2. The necessity for accomplishing a complete division of all the morbid tissue constituting the stricture, by an incision carried through it, no matter what part of the urethra, or how much of it, is involved in the disease. As a general rule, he thinks, this is most efficiently done by a slender blade, carried beyond the stricture and made to cut from within outward; this latter proviso being, however, an open question. The important point is that any alleviation of the patient's condition attained by operation will be transitory if any part of the narrowing be left undivided. 3. He regards it as essential, after such division, to place at once a full-sized catheter for some hours in the bladder, to ensure a free outlet for the urine, and prevent all possibility of extravasation of urine into and through the incisions thus made. 4. The necessity for passing full-sized bougies subsequently, at occasional intervals, in order to effect free distention of the walls of the urethra, which lie in almost constant apposition, and so to prevent reunion of divided surfaces by the first intention. Finally, he declares that the great desideratum of the present time unquestionably is the discovery of a mode of treatment which shall permanently restore to the strictured passage its original dilatability; and he adds that a thoughtful consideration of the pathological condition which constitutes organic stricture does not embolden him to hope that such a result can be insured by the application of any principles of action at present known to us.—*The British Med. Journ.*, August 28, 1880.

NOISES IN THE HEAD.—Much distress is occasioned to the subject of aural disease when he is ignorant of the conditions to which noises in the head owe their origin. Dr. Samuel Sexton offers an explanation of the modus operandi of these phenomena, deducted from his researches in the disorders of the middle ear. They are due, he believes, to anomalies of the drum-head and the small bones of the ear, structures composing the conductive apparatus, which, in a normal state, protect the patient from a cognizance of the somewhat noisy performance of the body's natural functions. In order that this normal duty may be performed, the drum-head and small bones of the ear are found to be suspended, as it were, in a state of tension between the outside air and the fluid in the labyrinth, thus effectually responding to wave-sounds from without, but ineffectually to those from within.

It is to be inferred from Dr. Sexton's explanation that the normal arrangement of the conductive mechanism is such that protection from tinnitus aurium is thus afforded to the auditory nerve, inasmuch as otherwise interference would obtain. In other words, the perceptive sense would be occupied at the same moment with disturbing noises from within the head, as well as with the undulations of sound that arise from sources without. The complete and satisfactory apprehension of the latter by the perceptive faculty requires that noises within the head should be excluded.

When the drum-head, either from acute or chronic disease, is rendered tensile, or the articulating surfaces of the small bones from similar influences become ineffective, the patient at once hears the sounds that arise within his own body, more especially those of the head, to which he was hitherto a stranger. Many of the sounds which thus become audible are well known to be most distressing, especially to weak-minded and nervous people. Some of the most annoying of these subjective symptoms arise from the patient's own voice (autophony), his own acts of swallowing and eructation, and from the impulses imported by the current of blood which traverses the carotid canal in its curvature near the middle ear; the last-named impulses causing a throbbing, pumping, or gurgling sound. The disordered movements of the conductive mechanism itself sometimes give rise to discordant noises of an intensely disagreeable character. The author's clinical experience has led him to the conclusion that many anomalies of audition, hitherto supposed by him to arise from abnormalities in the inner ear, are really due to pathological conditions of the conductive apparatus.—*The British Medical Journal*, June 26, 1880.

STATISTICS RELATING TO THE SEAT OF CHANCROUS AND CHANCROID ULCERS IN WOMEN.—Dr. Razumoff tabulated 1,374 cases, treated in one of the Moscow hospitals, as follows: Ulcers were seated on the uterine cervix in 117 cases (8.5 per cent.); 13 of this number were chancres with subsequent general infection; 664 on large and small labia; 272 at the vaginal entrance and between mystiform caruncles; 176 on posterior commissure; 60 on the perineum; 55 about anus; 26 anterior commissure; 3 in different parts of vagina, and 3 on meatus urinarius.—*Meditz. Obozrenie*, p. 360, May, 1880.

LOCAL USES OF PEPSINE IN DIPHTHERIA.—Dr. K. Danilewsky recommends the following formula; ℞. Pepsine wine, ℥j. to ʒiss.; acidi. muriat. dil., gtt. xv. to xx.; aquæ dest., ʒvj. S.—To use as a mouth wash or gargle four times an hour, for five to ten minutes each time, Medicine should be kept in water-bath, 37° to 40° C. Local applications of it with a brush can be used also. Dr. Wischinsky speaks also very favorably of this treatment.—*Vratch*, 1880, No. 18.

TREATMENT OF EXCESSIVE PERSPIRATION OF HANDS AND FEET BY FARADIC CURRENT.—As this symptom is due to disordered functional activity of peripheral nerves, Dr. Gordon was led to study this particular condition with the following results: the tactile and faradic sensitiveness of these parts is diminished, their temperature is lower. Systematic faradization controls the perspiration, and corresponding to the effects of treatment, the above two conditions are relieved.—*Vratch*, 1880, No. 20.

ATROPIA AS A SUBSTITUTE FOR MORPHIA FOR THE RELIEF OF PAIN.—Dr. Wrightson, of Newark, N. J., reports a case of cholera morbus in which the intense pain was instantly relieved by one-eightieth grain of atropia hypodermically, after the failure of thirty minums of Magendie's solution of morphia. The patient was on board of a pleasure yacht, and the atropia, Magendie's solution, and a hypodermic syringe comprised the doctor's armamentarium.—*Maryland Med. Jour.*, Sept. 1st.

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CLIMATE CURE.

It is humorously said by the laity that, when all other plans of treatment fail, the patient is sent away to try another climate. With such a belief that this method of treatment is a last resort, and that the physician is driven thereby to the desperation of relinquishing a profitable patient, it is no wonder that it has taken a long time to establish in the minds of the people, and with some part of the profession as well, the value of what may now be called the simple climate cure. But that the study of the latter is growing in importance goes without the saying. Judging from the number of pamphlets and books we receive bearing upon the advantages of this or that climate for invalids, it would appear the theme is a wide one and its advocates very many. Having no particular locality in mind, and desiring to make a few general remarks upon the subject, we are safe in saying that there is altogether too much special pleading, on the part of the writers in question, to divest their opinions of a natural partiality for the localities in which they live and practise. Divesting the writings of this element, which is to a certain extent excusable because natural, we find in them much for study and contemplation, and much to guide us in choosing a particular locality as a temporary or perhaps permanent residence for our patients. For instance, we have laid before us a collection of facts regarding humidity, temperature, wind velocity, rainfall, and soil drainage which are of the greatest possible importance to the general practitioner in enabling him to make a proper selection for his patient. In attempting to do so, however, more than ordinary discrimination is necessary and more than ordinary responsibility is involved. If the physician is not sufficiently acquainted with a given locality, it is much better for his patient to stay at home. The advice should be founded on just as good reasons, and with as much care, as in prescribing any other method of treatment. In fact, many more things are to be taken into account than are usually necessary in a casual prescription. The patient has not the advantage of stopping his medicine, in case it disagrees with him, and of substituting therefor something that may not be positively detrimental.

Possibly the reason why the prevalent loose way of prescribing change of locality to patients, without even more disastrous results than is sometimes obtained, is due to the fact that those with phthisis, and who are proverbially hopeful, are usually selected. But that the changed conditions of life, even in this class, oftentimes tends to strike the balance the wrong way, is a fact that has been brought home to the experience of very many whose advice is sought in these cases.

At a time in the year when so many invalids are seeking advice as to change of quarters, these general observations seem to be called for. Considering the number and variety of well-established health-resorts now in successful operation in our own country, there would seem to be an embarrassment of riches in making a choice. There are no doubt climatic facilities for the treatment of all varieties of phthisis or of any other intractable disease, but the trouble is to use them properly. The careless prescriber, however, is so constantly trying to fit the square plug into the round hole that there seems to be a necessity at certain times to remind him of the impracticability of such an endeavor.

The conditions to be taken into account in prescribing a change of climate are numerous and important. Taking phthisis as the typical disease for which this plan of treatment is mostly employed, we have its varieties, its different stages, the age of the patient, condition of general health at the time, and many other conditions to consider before deciding upon any special plan of climatic treatment. The choice of place and climate in this country is probably better than in any similarly accessible region. We may safely say that we can command, within a few days' travel, any range of temperature, humidity, high or low level, that can possibly affect the treatment of any of the varieties of phthisis. From the Adirondack woods to the coasts of Florida, from Minnesota to Colorado, from the Pacific coast of California to the Bahama Islands, and from the arid plains of New Mexico to the pine forests of Georgia, we have a range of selection which must needs satisfy the most exacting requirements of every stage and variety of disease for which change of climate is prescribed. This condition of things is so well acknowledged by our European contemporaries that America is claimed by them to be the country which offers a far greater choice of climates than is to be found across the Atlantic. In no country can the climate cure of this dreadful disease be more satisfactorily settled.

So far we are quite well agreed that there are certain principles tolerably well established upon which the climatic method can be based, but that there are still some differences of opinion upon certain points must be also acknowledged. For instance, we know on general principles, that the catarrhal variety of phthisis does not do as well in high altitudes as on lower levels, and that the contrary is the case with the fibrous variety of the disease. For the tubercular variety the equable climate, whether warm or cold, whether moist or dry, seems to be indicated. In still other cases, especially in middle-aged, broken-down persons, a sea voyage is likely to be beneficial. But as each case must be treated by itself, it can easily be seen that too much care cannot be taken in weighing all the chances of the change and of offsetting all the enthusiastic descriptions of different sanitaria by the more or less inevitable privations of home comforts and pleasant social surroundings. Concerning the latter points there is not so much discretion used as there should be. Not only must a proper diagnosis be made of the character of the disease, its stage and progress, but the previous habits of the patient must be taken into account. Very often the social proclivities of the patient are more important in taking into account his chances of recovery than any change of climate can possibly be. On second thought this appears so much like a self-evident proposition, that its presentation would hardly seem necessary, except for the fact that it is constantly lost sight of by a large majority of prescribers. To send a patient away from his home appears a simple procedure; but in reality the magnitude of the sacrifice which it involves is seldom appreciated by the physician, and almost never by the invalid, who for the first time is to separate himself from his family and friends. Home comforts are often replaced by the most annoying inconveniences. In some of our most healthful climates the food is deficient in quality and variety. Game may be abundant, but man cannot live on game alone. The absence of fresh meat is much complained of, as is also the quality and choice of fruit in other places. Then again, in many places the charges for accommodation are very high and tempt the economical to lose in one way from lack of home comforts what they might otherwise obtain from the delightful climate. The general advice to be given in regard to such possibilities is that the patient, unless he is perfectly easy in money matters, should not go at all; that under proper circumstances, having concluded to start, he should select a well-regulated sanitarium in the district, where the nearest approach to home comforts could be obtained, where mail and other kindred facilities exist, and where there are meat and vegetables in reasonable abundance. That many of these deficiences exist in even well-regulated establishments, we have good reason to know from many complaints we have received from different quarters, and we take this occasion to refer to them, as more than possibilities in some general and necessarily cursory remarks upon the climatic treatment of disease. For obvious reasons we have omitted a reference to any particular localities, but merely give some general directions founded on general reading and observation, which each physician may apply to the individual necessities of the cases under his care. It is perhaps unnecessary to say in this connection, that climate cure is a science in itself, that it should be studied as a science, that as a system of treatment it is a powerful one for good or evil, and that as such it should be used with intelligence and discretion.

THE PROTECTION OF THE INSANE AND THE PREVENTION OF INSANITY.

We have received a pamphlet containing the three addresses delivered at the time of the organization of the National Association for the Protection of the Insane in Cleveland last summer. The first address, by Dr. George M. Beard, presents with much force the reasons for the creation of the society in question. The undoubtedly rapid increase in the number of the insane, and their peculiar helplessness and weakness are alone, we are told, sufficient cause for establishing an organized watch over the disease, its victims, and their keepers. "We have," says the speaker, "societies for the prevention of cruelty to children; but the insane are children without their *naïveté*, their innocence, or their sweetness; we have societies for the prevention of cruelty to animals, but insanity oftentimes reduces man below the grade and habits of the lowest animal; we have societies for relieving the condition of the poor, but insanity makes us poor, while poverty makes us insane. We have health boards for the warding off of fatal epidemics, but death, even at the hands of the foulest disease, is poetry compared with hopeless disease of the mind." Another reason given for creating the association is that it will help to bring about a state supervision of the insane. And such supervision, properly carried out, will give in this country, as it has in Great Britain, assurance that the insane in asylums, public and private, will be treated kindly and wisely.

Such a society will also, it was claimed, help to raise the standard of thought and treatment of the insane, both in and out of asylums. The care of the insane is one that must interest not only physicians, but politicians, economists, and philanthropists, and this includes a large number of persons who are now ignorant of the disease in many of its aspects. To infuse throughout society a true notion of the character and dangers of insanity and of the needs of the insane, would afford plenty of scope for organized effort.

We can heartily subscribe to the sentiments thus quoted. The Association for the Protection of the Insane has truly a wide enough field before it, and we are glad to learn that it has already secured, as members, men and women who will be sure to accomplish good work in the cause for which they are united.

The address of Dr. Shaw on the practicability and value of the treatment of the insane is a plain and modest statement of what he has done at the Flatbush Asylum, during the past two years, in the way of introducing non-restraint. The simple statement of facts that he gives is the most powerful argument we have seen for the system in question. In two years Dr. Shaw has turned one of the worst ayslums in the State into one of the best. With the difficulties which he had to contend against he cannot be too highly praised for this work. Dr. Seguin's address treats of the same subject, but more elaborately, and with reference to the personal rights of the insane as well as to their proper therapeutical treatment.

Altogether, we can congratulate the society that it was inaugurated in so successful a manner, and that its first work is so worthy of the high aims which it professes.

THE INTERNATIONAL LARYNGOLOGICAL CONGRESS.

THE International Laryngological Congress, which met at Milan last month, appears to have been a very successful affair. Italy, Germany, England, France, Russia, and America were represented. A very interesting discussion took place upon tuberculosis of the larynx. Some of the German professors claimed to have cured this affection—a claim which will give strength to a similar one that has been made by some American laryngologists.

A very interesting case was exhibited by Professor Caselli of complete removal, twelve months previously, of the larynx, pharynx, base of the tongue, soft palate, and tonsils, for an infiltrating lymphoid growth, interfering with respiration and deglutition. The patient appeared in excellent health, swallowed easily both liquids and solids, and spoke distinctly by means of an ingenious apparatus acting after the manner of a clarionet.

The members of the congress were entertained with an excursion, two collations, and two cremations. The latter excited much interest, as they illustrated two different methods of incinerating the corpses. The one was done with the ordinary furnace, wood-fire, and iron griddle. The latter was a new process, the combustion being entirely by gas.

The hospitalities extended to the guests were very cordial, and appeared to have been greatly enjoyed. This was the sixth International Congress that has occurred at Milan this year, the others being representatives of ophthalmology, otology, public health, history, and the teaching of deaf-mutes.

THE HISTORY OF OVARIOTOMY.

A QUARREL has been going on in the *British Medical Journal* upon this subject. It arose from an editorial article which, in reviewing the history of ovariotomy, gave only slight notice to the work of Dr. Charles Clay, but heaped the honors upon Mr. Spencer Wells. This was resented by the former gentleman, who claimed that he was the first prominent ovariotomist in England, and had done a great deal to put the operation on a solid footing; also, that much which the *Journal* had ascribed to Wells should have been ascribed to him (Clay). He also said that Spencer Wells first saw him operate in 1857, fifteen years after his first operation, and that as Mr. Wells had not at that time operated at all, he then learned much regarding the operation. Dr. Clay also claims to have used the intra-peritoneal suture before Wells demonstrated its value by experiments on animals.

Mr. Wells, on the other hand, denies that he ever saw Dr. Clay operate until 1863, at which time he (Wells) had operated fifty-eight times. Various letters and editorial comments have appeared upon this matter, the last being a letter from Dr. Clay, in which he reaffirms his statement that Wells saw him operate in 1857, and he brings considerable evidence to substantiate his point.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, September 22, 1880.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

DR. HEINEMAN presented, on behalf of a candidate for admission into the Society, a specimen of sacculated aneurism of the aorta, which, although of small size, had, in consequence of its impingement upon the last dorsal, ruptured prematurely, and had caused an immense subperitoneal hæmatoma.

ADHERENT PLACENTA.

DR. F. V. WHITE exhibited a specimen of adherent placenta with the following history: Mrs. M——, aged twenty-six years, primipara, was taken in labor September 20th, 10 P.M. 2.30 A.M. of the 21st the bag of waters broke. The os uteri was dilated to the size of half a dollar, and was dilatable. She was delivered at 10.30 A.M., after a natural but severe labor. After separating the child from the mother, Dr. White wrapped the cord around one hand, and made moderate traction in the direction of the superior strait, the fundus uteri being held in the meantime by the opposite hand. Shortly the cord broke, and Dr. W. then found it necessary to introduce the hand into the uterus. He then discovered that the placenta was adherent to the anterior portion of the uterus in the median line, where the membranes were also thickened. The woman was placed upon her side, the womb steadied with one hand, and with the other the placenta was duly separated. Considerable hemorrhage attended the operation. The specimen was interesting to Dr. White as it was the first of the kind that he had seen during his obstetric experience, comprising an attendance on 2,000 cases of labor.

In answer to a question from Dr. Tausky, as to whether he used Crede's manner of compressing the uterus before attempting traction upon the cord, Dr. White stated that he did not think that compression availed much in such cases as the one under consideration. Immediately after the child was born, Dr. White stated that his practice was to make firm pressure upon the uterus, and, if in a reasonable time the placenta was not discharged, it was his custom to help nature by making careful and moderate traction upon the cord ; at the same time the placenta was gently freed from its connections.

Dr. Tausky believed that by pulling on the cord there was danger of producing inversion of the uterus, especially when the placenta was adherent.

In answer to a question from Dr. Satterthwaite, **Dr. White** stated that he was not in favor of using ergot in such cases as the one presented.

Dr. Tausky remarked that he had seen several cases of adherent placenta. All of these were complicated with placentitis. He was in the habit in such cases of using Crede's method combined with the use of ergot. If both these means failed, he introduced his hand into the uterus, and separated as much of the placenta as was possible. The hand failing, the curette was employed, and the remaining parts were detached piecemeal. For the hemorrhage which usually attended this operation he used hot-water injections (110° F. to 125° F.). The injection was continued for half a minute, and then there was a rest for an equal period of time. This plan was continued until the hemorrhage ceased. If it be impossible to remove the entire placenta without using force, he thought it was much better to wait.

Dr. Sell stated that he had met with several cases of retained placenta. He referred to one of these which occurred after the delivery of an acephalic double-faced monster. Three-quarters of the placenta was entirely adherent, and was removed piecemeal. In regard to the relative merits of forcibly removing the placenta and of allowing it to remain until discharged by nature, he had witnessed the effects of both practices in the University of Vienna. The results were in favor of allowing part or all of the adherent portions to remain. In none of the cases in which the latter practice was followed was there any bad result, and in none was there any hemorrhage.

ANEURISM OF AORTA.

Dr. Peabody presented a heart removed from the body of a male waiter, aged thirty-nine years, a native of Switzerland. Unfortunately, the patient died an hour after his admission into the New York Hospital. The history of the case was incomplete and unsatisfactory so far as it was obtainable. The patient had been ailing for several months, but he was able to follow his occupation until four or five days before admission. He was examined by the house physician. The heart was large and feeble in pulsation, but without murmurs. There was fluid in both pleural cavities, and he was in the condition of general anasarca. He died without premonitory symptoms, after being put to bed in the ward.

At the autopsy there were six hundred cubic centimetres of fluid found in the pleural cavities, and half the quantity in the cavity of the peritoneum. The conditions of the heart and aorta were the points of interest. The left ventricle was thin, and was markedly dilated. The aorta was atheromatous, and at its commencement and on its anterior aspect was dilated, forming an aneurism large enough to contain half a hen's egg. It contained both old and recent clots. The aortic valve was normal, but would not have been incompetent except for the dilatation above it. The muscular tissue of the heart was distinctly fatty, the deposition of fat being more on the right than the left side.

Dr Heitzmann objected to the use of the term deposition of fat, inasmuch as it did not express the true pathological condition of fatty degeneration. The latter was an actual transformation of the sarcous element of the muscle into fat, and was in no sense a deposit or infiltration. Whether the granules remained as such, or coalesce to form globules, the condition was the same. The difference was in degree, but not in kind.

Dr. Peabody admitted that the term was a loose one, and did not explain the pathological condition. He was aware that fatty degeneration was a transformation of the sarcous element.

Dr. Heineman referred to the teaching of Prof. Clark in regard to the difference between fatty degeneration and fatty infiltration. The former was a transformation of the sarcous element, and the latter was a deposition of fat beneath the sarcolemma.

Dr. Peabody presented a second specimen, which consisted of a heart of normal size removed from the body of a man thirty-five years of age. The patient was admitted to the New York Hospital during the summer, and died from sunstroke a few hours after admission. At the post-mortem examination there were found the usual lesions of the disease, and in addition an interesting and anomalous condition of the aortic valve. There were but two cusps to the valve, one of them being twice the size of the other, and no evidences of previous inflammatory action to account for it. Dr. Peabody believed that the condition was one of congenital malformation, and stated that he had failed, in a hasty reference to the literature of the subject, to find any case like it.

TUBERCULAR MENINGITIS, WITH EXTERNAL AND INTERNAL HYDROCEPHALUS.

Dr. Robinson presented a specimen of dilatation of lateral ventricle on behalf of a candidate for admission to the Society, after which he exhibited a brain which illustrated the lesions of tubercular meningitis with external and internal hydrocephalus. The history of the case, from the hospital records, was as follows :

Edward Person, born in New York, aged thirty-seven, married, no occupation. Admitted to St. Luke's Hospital September 17th. He was brought into the hospital completely unconscious, and the following incomplete history was obtained from his friends : Had been intemperate for several years (principally drinking beer). Two weeks ago was taken with a diarrhœa which was quite severe, but for the past few days it was pretty well under control. For the week previous has been more or less "out of his head" at various intervals. Yesterday morning (16th inst.) was perfectly sane, and went out alone for a walk, and drank some beer. Last evening became unconscious and has continued so up to present time. He lies quietly on his back, moaning with each expiration. Has nystagmus. Moves arms aimlessly about (right more than left). Incontinence of urine and fæces. Keeps his mouth open, and is almost incessantly moving lower jaw with a sort of lateral, grinding motion. Examination of urine: specific gravity, 1028, alkaline, muddy, with flocculi of mucus; no pus, no albumen.

9 P.M.—Patient much the same condition. Respiration, 40; pulse, 100; temperature, 101°. Pupils somewhat dilated.

September 18th, 9 A.M.—Respiration, 45. Patient is perspiring very freely.

3 P.M.—Examined by Dr. Robinson: Congestion of both lungs and pleuropneumonia of right lung, posterior. Doctor thinks this is an effusion into the right ventricle, and probably some meningitis.

September 18th.—Temperature, 9 A.M., 102⅗°; 9 P.M., 103⅕°. Pulse, 9 A.M., 120; 9 P.M., 146.

September 19th.—Has convulsive twitchings of muscles of left side of face. Respiration, 50. Same general condition. Temperature, 9 A.M., 104⅓°; 9 P.M., 104°. Pulse, 9 A.M., 145; 9 P.M., 142.

September 20th.—Patient failing rapidly. Temperature, 9 A.M. (axilla), 104⅓°; pulse, 9 A.M., 160, and dichrotic. Patient perspires freely. White film over left eye. 3.30 P.M.—Patient died, still having high temperature and sweating.

Autopsy, September 21st, 9 A.M.—Drs. Satterthwaite and Robinson present. Surface of brain œdematous, and considerable opalinity of pia mater. Congestion, thickening, and tubercular deposit (probably) of membrane along fissures of Sylvius of both hemispheres. In the middle of left optic thalamus a cheesy nodule, size of a walnut. Brain-tissue soft and watery. Foramen of Monro considerably dilated. Some effusion into ventricle of simple serous fluid (about four ounces).

Tubercular meningitis, with external and internal hydrocephalus. Left lung bound by adhesion at apex and upper lobe, posterior. Cavity, size of small hen's egg, in the anterior portion of upper lobe, which was empty and partially healed over. Also some tubercular deposit of this lobe and congestion of the lower. Right lung closely bound by adhesions throughout. Tubercular and pneumonic deposit scattered throughout the entire lung.

Tubercular phthisis and hypostatic pneumonia. Liver fatty, weight 3 lbs. 13 oz. Heart valves slightly thickened, weight 9½ oz. Kidneys slightly fatty; right, 6½ oz.; left, 6 oz. Spleen, weight 6½ oz.

FLUID FROM SPINA BIFIDA.

Dr. Louis H. Sayre presented some fluid which had been removed by aspiration from a case of spina bifida. The patient was a girl eight years of age, of perfectly healthy parentage. At birth there appeared a small ecchymotic spot in the lumbar region, which gradually enlarged until it attained the size of a large orange. The case was seen by Dr. Sayre, senior, who encased the swelling in plaster to guard against any injury to the part. The only symptom complained of by the patient was severe headache when any undue pressure was made upon the swelling. After repeating the applications of the plaster as occasion required, aspiration of the sac was finally determined upon and performed. After six ounces of fluid were withdrawn, a drainage-tube was inserted. The patient suffered from no inconvenience during the operation. Dr. S. stated that the patient would suffer from nausea and vertigo on rising in the morning.

Dr. Amidon thought that these symptoms were occasioned by a relative change in the pressure of the cerebro-spinal fluid as a result of gravitation.

Dr. Heitzmann next presented some reasons why there should be a change in the nomenclature of sarcomatous tumors.

ON MYELOMA (VIRCHOW'S SARCOMA).

He claimed that Virchow's terminology was incorrect, both because the word sarcoma had no significance, and these tumors, as all others, were built up by a tissue, and not by individual cells. On closer examination it had been found that all medullary elements were connected with each other by means of delicate offshoots of living matter, which pierced the surrounding narrow basis- or cement-substance. A reticulum of living matter was present, also, in every variety of fibrous or myxomatous basis-substance. He proposed the term "myeloma," which first had been suggested to him by Dr. L. Elsberg. Essentially, there are but two varieties, viz.: globo-myeloma and spindle-myeloma (Virchow's round-cell and spindle-cell sarcoma). Net-cell sarcoma was nothing but a spindle-myeloma, in which the spindles produce a relatively wide reticulum. Virchow's giant-cell sarcoma did not represent a special variety, but was a myeloma with multinuclear protoplasmic bodies, which only indicated the tendency toward the formation of a basis-substance. Also melanotic and alveolar myeloma were only sub-varieties. Myeloma represented the most primitive, embryonal, medullary tissue, and also clinically, the most malignant type of tumors. Cancer, when growing rapidly, often changes its structure into the more simple structure of myeloma.

Dr. Satterthwaite believed that it would be desirable to change the nomenclature of tumors, but that it would be immature to do it at present, in view of the accepted working model of Virchow.

Dr. Peabody stated that such a change was a serious undertaking in the face of the general acceptance of Virchow's classification. In any event, he thought that great care should be exercised to prevent the combination in one term of words derived from different languages.

The Society then adjourned.

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Experience with Eight Hundred Obstetrical Cases.—Dr. W. J. Kelly gives a summary (*Ohio Medical Recorder*) of 800 obstetrical cases, and appends to his analyses some very sensible conclusions from his experience.

The forceps he commends very temperately; he prefers the long forceps of Hodge. For rigidity of the os uteri he strongly recommends warm baths or tincture of lobelia in doses sufficient to produce nausea. Ergot he condemns as a very dangerous drug, which he has used with more caution every year. Following the administration of chloroform, he has always found more danger from post-partum hemorrhage, and its use during application of forceps is unqualifiedly condemned. Version has been the trial of his life, and is never resorted to when it can be avoided. In puerperal fever, veratrum viride and quinine have always acted well. In placenta previa his practice always has been to divide the placenta with the fingers, rupture the membranes, and allow the head to descend. In this way hemorrhage has always ceased, and labor progressed favorably.

Correspondence.

INDUCED HYSTERICAL SONAMBULISM AND CATALEPSY.

Muscular Hyperexcitability—Induced Delusions and Aphasia—Phenomenon of Suggestion—Universal Muscular Contracture—Method of inducing these Conditions.

To the Editor of The Medical Record.

Dear Sir :—About the court-yards and the wards of Salpêtrière, pursuing various occupations, such as reading, sewing, and assisting here and there, one may see any day a goodly number of patients, whose appearance is far from suggesting that they are the subjects of the violent convulsive attacks incident to hystero-epilepsy. Unlike the epileptics—the class that would most nearly correspond in respect to this apparently normal interval—these patients present no sign of intellectual dulness. The hystero-epileptic is bright-witted and vivacious ; the epileptic dull-witted and listless. But a day later we may see any one of these intelligent and seemingly healthy young women launched into a long series of violent crises, such as described in my last letter. Having then fully considered the "attack," we may now at leisure give our attention to the behavior of these same patients at other times.

In the first place, their condition in the intervals between the attacks is by no means as normal as it appears. To say nothing of that emotional instability (disposition to laugh and cry, etc.) so characteristic of the hysterical, there will be found, on examination, certain tolerably permanent physical changes relating to the general sensibility, the special senses, and the muscular sense and force ; indeed it would be safe to say changes relating to the whole innervation of given districts—in most instances an entire lateral half of the body. For instance, all of these patients will be found to be hemianæsthetic, generally on the left side ; pinching, cutting, or burning produce no sensation of pain, nor do tests of temperature, position, etc., provoke their normal responses ; in short, the cutaneous anæsthesia is absolute ; they are equally hemiparetic, or, to use a milder term perhaps, hemiamyosthenic ; tested by the dynamometer their muscular power is found to be weakened on one side or the other. If the examination is pushed farther, the hemianæsthesia will be found also to involve the mucous membrane and the special senses—all this on the same side of the body. The hearing is dull ; the eye is amblyopic, and fails to distinguish, perhaps, any color whatever, or, if the entire field of vision is not achromatopsic, distinguishes the red or the yellow ; and the sense of smell and of taste are also abolished.

The only exception to this almost absolute obnubilation of nerve-function upon one side is the existence of a certain number of hyperæsthetic and at the same time hysterogenetic points or regions. At these points the cutaneous anæsthesia is as complete as elsewhere, thus presenting a ready means of diagnosis from dermalgia, in which the cutaneous sensibility is exaggerated to such a degree that a slight touch even may produce intense pain. The hysterogenetic regions, on the contrary, are more deeply situated, and are characterized by the peculiarity that slight pressure upon them, or other form of light irritation, will produce the complete hystero-epileptic seizure, or at least certain auræ, while strong and continuous pressure will produce an arrest of the seizure, however originating. This, contradictory as it seems, has been demonstrated again and again, until, by mere force of repetition, it has become an acknowledged law. Chief among the hysterogenetic zones is the ovary.

But all the symptoms just alluded to may be taken up more suitably in connection with the effects produced by magnets, metals, and static electricity. They have been mentioned here only, since they take a natural precedence of the more novel symptoms whose description follows, viz., induced hysterical sonambulism and catalepsy.

One morning Prof. Charcot very kindly had a number of these hystero-epileptic young women summoned, and demonstrated, as he has already done hundreds of times on numbers of different patients, certain phenomena, which I will attempt to describe as they occurred, always asking my readers to remember that I have no other office, for the present at least, than that of a simple mirror, which reflects to their eyes the morning clinic at Salpêtrière.

In approaching the subjects of induced hysterical sonambulism and catalepsy from a scientifically medical point of view, I cannot forbear quoting some very pertinent words of Doctor Paul Richer, formerly interne at Salpêtrière, in regard to the spirit in which the work has been prosecuted. "Despite the difficulties of all sorts," writes Dr. Richer, "which such a subject must, in the nature of things, present, M. Charcot has not hesitated to begin this study ; for he thinks that all natural phenomena, whatever may be their appearance of complication or of mystery, are none the less susceptible of methodical examination, and that it is the part of a true observer to guard himself, as well from denials easy to make from the standpoint of having prejudged a case, as from the danger of giving too free rein to the imagination. It is no more allowable to deny facts rigorously observed than it is to rest upon a single incomplete observation theories which, at the least, are premature."

1. Sonambulism and Induced Delusions.

The first patient brought into the clinic was Witt——, a young woman of about twenty years of age, large, finely formed and muscular, and suggesting, in personal appearance, no idea that she differed from healthy people. Her hereditary antecedents, however, from a neuropathic point of view, were bad ; her father had been insane and her mother "nervous." Hystero-epileptic attacks began at the age of fifteen, but were not very frequent. At eighteen they became frequent, and the *series* longer, and she was admitted to Salpêtrière. Her case is a perfectly typical one. All the familiar symptoms may be studied in it : hemianæsthesia, hemiparesis, ovarian hyperæsthesia, hysterogenetic zones, achromatopsia, etc. She had been summoned, on this occasion, for the examination of two additional symptoms—sonambulism and catalepsy.

Having first established the fact, by indiscriminately thrusting large needles through her skin, that a complete hemianæsthesia existed on the left side, Prof. Charcot asked her to be seated, and to look at his finger, held a few inches above and in front of her eyes. Her look remained fixed upon the finger for perhaps ten seconds, and then all at once her head fell heavily to one side, her eyes closed, there was a slight sound and movement of deglutition, and the patient slept. Her body was in a state of complete resolution; if an arm was raised by the observer, it fell again heavily.

The process just witnessed is most commonly known as hypnotism, the state as that of somniation, sonambulism, or, as proposed by Prof. Charcot, since it involves no theory, lethargy. The patient will remain in this condition of sonambulism (retaining for the present the more familiar term) for many hours, but may be aroused from it at any moment by blowing quickly in the face, when, upon awakening, she will be found to retain no recollection of anything which has occurred during her sleep. We may now note a most interesting phenomenon characteristic of this state; this, discovered by Prof. Charcot, has been named by him muscular hyperexcitability.

If, for example, we press lightly upon any muscle we choose to select, or, better still, rub it with moderate force, we shall at once produce in it a persistent contracture, and that to an extent of rigidity depending upon the degree to which we have excited it. Light pressure or rubbing produces slight contracture, strong pressure produces extreme contracture, and, as indicated by the word contracture, the muscular contraction produced is persistent. In order to undo or resolve this contracture it is necessary to rub, and thus excite, the antagonistic muscle until the member or trunk has resumed its natural position. The method of producing this contracture most nearly recalls that pursued in electrization at the usual electromotor points. But it does not appear that one need confine himself to these points.

Let us see how what we have just described applies to our patient, now asleep with head drooped, and reclining in the chair before us, a helpless subject for experimentation. The left sterno-cleido mastoid is rubbed several times with the point of the finger, and straightway this muscle stands out like a rigid column in the neck producing at the same moment its usual action of turning the face around to the right; we have a perfect torticollis which, left to itself, would persist at least for a number of days. But the opposite sterno-cleido-mastoid is now rubbed and contracts until the face looks directly forward, and the torticollis is resolved. The flexors of the forearm are pressed upon and rubbed, and they at once become rigid, flexing of course at the same time the hand upon the arm. If the irritation be continued the muscles become extremely hard, and the bystander, by any force which he can reasonably exert, cannot overcome this flexion. But it may be at any moment resolved by rubbing the corresponding extensors. Or a number of muscles may be contracted at once—the flexors of the forearm, and we have flexion at the wrist—the biceps, and the forearm flexes in the upper arm—the pectorales, and arm and shoulder draw inward and forward, recalling in features the contracture seen in hemiplegia. But all this may be resolved at once, if the bystander or operator chooses, by simply exciting in turn the natural antagonistic muscles.

In short, it was perfectly evident that each muscle in the body could be made to exert and maintain its normal action. This was the more patent when demonstrated upon small and isolated muscles. Taking for convenience a penholder, its blunt end was pressed upon the attollens auriculæ, at once the ear was elevated; or upon the retrahens, and the ear moved correspondingly. I satisfied myself of this again and again, not only in the case of Witt——, but in that of several others, by selecting isolated muscles with special actions, generally taking the familiar electro-motor points for the experiment. Pressure upon the pronator longus, and pronation alone ensued—upon the supinator, and supination resulted; or, for variety, upon the two extensors of the thumb, and each acted upon its proper phalanx. A most interesting demonstration was to select in turn, using the end of the penholder, the group of muscles about the thumb—nothing could be more exact than the results elicited—an opponens, an abductor, an adductor, a flexor, each in turn responding by throwing the thumb into corresponding positions, each of which positions persisted as a contracture until resolved by exciting an antagonistic muscle. In the same manner any single muscle of the face was made to contract. The experiment, of course, was susceptible of an endless variety of combinations. The very natural suggestion arises, may not the future anatomist, who writes upon the action of muscles, contribute much to scientific accuracy by studying from such a subject as Witt——?

But the same kind of contractions may also be brought about by exciting by pressure the trunks of nerves. Pressure upon the ulnar at the elbow produces a fixed state of contraction in all the muscles innervated by this nerve. If the facial nerve at its exit in front of the ear is pressed upon, the mouth and side of the face is drawn strongly to the corresponding side, though owing to some as yet unknown law of exception the contraction of the facial muscles remits as soon as the irritation is removed.

Up to this point it has been possible not only to produce a contracture, but to resolve it at will. —the patient, it must be recollected, being all this time in a state of sonambulism. But we may create a contracture which cannot be thus removed. We will suppose that, having produced a strong contracture of flexion at the wrist and at the elbow, one blows quickly in the face of the subject and wakes her up. She blinks her eyes, stares about her a few seconds to get her bearings, and then suddenly discovers that her arm is rigid; she tries in vain to move it; it seems as firm as metal, and thus it will remain for several days if left to itself. The physician cannot now, as previously, resolve this contracture by rubbing the antagonistic extensors. True, a very strong faradic current applied to the extensors will overcome the contracture, but the moment the current is remitted the arm flies back to its contractured state almost as if it were a steel spring put on the stretch and suddenly let loose. There is but one means of resolving this state of affairs, and that is to again put the patient to sleep; the contracture may then be made to yield on the instant to the usual process of exciting antagonistic muscles. The patient, for example, may be waked from her sonambulic sleep with an artificially produced torticollis. One may imagine how very puzzling this would be to a physician not knowing the history of the case. If we recall in this connection the fact that exactly these same contractures may occur spontaneously in the hysterical, we see at once the important bearings of these cases of artificially produced contracture.

I recall, for instance, in the case of an hysterical girl, a torticollis which was operated upon by tenotomy again and again by a distinguished surgeon, and treated by apparatus for months—all without the slightest curative effect. In another instance the tendo Achillis was cut more than once in the same kind of a patient, equally with no result. Such cases at least are suggestive.

The experiment of waking the patient with a contracture which neither she herself nor any one else can relieve (without again hypnotizing her), is of course, like the first series of experiments described, subject to many combinations. Some of the contractures thus produced and left to the patient may be ludicrous, and some more or less distressing and dangerous. Often the tongue is contractured by pressing the finger upon its base and thus rendered immovable; the patient is waked and finds herself speechless. Or again, in too much manipulation about the neck, muscles of the larynx become contractured, and a distressing and persisting laryngismus stridulus is produced.

Our patient, Witt——, has thus far been in the first stage only of the induced sleep—a stage most familiarly known as that in which the patient may wander about (whence the term sonambulism), answer questions, obey commands, etc. Up to this point we have examined only a single characteristic of this stage, viz., the muscular hyper-excitability, since this one point is not only a newly discovered one, but has also an extreme practical interest in its relations to every-day practice. We will pause for but a word in regard to induced hallucinations, another characteristic of this stage, and then pass on to the second, or cataleptic stage, where we may also pause by the way to observe induced aphasia.

Two simple experiments performed on another occasion with Witt—— illustrate the method of producing hallucinations. Witt—— is hypnotized; her eyes are opened by the operator, and she is told to look carefully at the bystander—that he is Ernestine, a young woman friend of hers present. Her eyes are then closed. Ernestine is now led up, Witt——'s eyes opened, and she is told several times that Ernestine is the bystander, and her eyes again closed. The operator now blows quickly upon W——'s face. She wakes, and at once addresses and treats the bystander as Ernestine, and Ernestine as the bystander. This delusion persists a long time unless W—— is again put to sleep and the hallucination removed by reversing the process of its creation.

Or again, W—— is hypnotized, her eyelids held open, and the operator directs her attention to a spectator upon whom he is pretending to greatly elongate the moustache, pull up the collar to a ridiculous height, form colored rings around the eyes, and otherwise figuratively represent him as ludicrous. These pantomimic motions ended, W——'s eyes are closed, and she is awakened. She takes a second or two to recover her wits, and then looks up. She catches sight of the spectator thus transformed to her eyes, breaks into laughter, and runs away, saying, "Oh! what a droll man," "Who is he?" etc. This impression will, as in all of these instances of provoked or induced hallucination and delusion, remain for all day, or perhaps several days, unless dissipated, as already described.

There is, of course, infinite variety to this experience. We have only to delineate to the eyes of the patient the crucifixion or the image of the Virgin Mary, and we shall have at once all the attitudes and expressions of veneration, love, worship, and beatitude, just as recounted in multitudes of histories where undoubtedly these hallucinations have occurred spontaneously, as they often do in this numerous class of excitable women.

II.—CATALEPSY AND INDUCED APHASIA.

Witt—— thus far then, as we have just said, has been in the first stage of the induced sleep, that of sonambulism. We recall that the trunk and members were in a state of resolution, and the eyes closed. She may now, in the simplest manner imaginable, be made a cataleptic, and thus enter a second stage, accompanied with new phenomena. The upper eyelids are raised by the operator, and it is done. A slight sound and movement of deglutition announces the transition, and perhaps a little foam in the corner of the mouth. There is now no isolated "muscular hyperexcitability." We press and rub the muscles in vain; there is no contraction or contracture. On the contrary, an altogether different condition exists: body and limbs now maintain any position in which they are placed; in short, we have the condition familiarly known as catalepsy. If the arm is raised to a right angle with the body, it remains so; if the leg is placed in a similar position, it does not fall. The patient may be moulded at will, like a waxen figure, into any pose one pleases, and the position will be retained. The patient is totally anæsthetic, whether so previously or not. She makes no response to questions, nor in any way gives any sign of being in communication with the external world; the eyes are wide open. There exists but one method of producing in her any external evidence of intellection. This constitutes the curious phenomenon called "suggestion." If, for instance, the now waxen limbs are placed in a pose which indicates aversion, *i.e.*, with the arms fully extended in front and the palms of the hands turned outward, the muscles of the face at once contract, and its whole expression is that of aversion. If, again, her hand is placed at the lips, as in the act of throwing a kiss, the face at once breaks into a smile.

The catalepsy may be equally simply resolved by closing the eyes. The arms, for instance, a second before raised and fixed like those of a statue in a given attitude, fall, at first slowly, then more quickly and heavily, downward. The whole body is now again in a state of resolution. We have returned from the stage of catalepsy to the first stage, that of sonambulism. Or, the experiment of transition may be varied in an interesting manner. The patient, we will say, is in the first stage, that of sonambulism. We open the right eye, and she is now cataleptic on the right side, for the limbs of this side will preserve any attitude given to them, while the muscular hyperexcitability has disappeared; at the same time, on the left side, the muscles are still in the condition appertaining to sonambulism, *i.e.*, hyperæsthetic, for the usual contractures may be brought about in any of the single muscles of that side. If now the left eye is opened, the patient becomes wholly cataleptic; if both eyes are closed, she is wholly sonambulic.

We have here the curious anomaly of hemi-catalepsy and hemi-sonambulism existing at the same moment in the same patient, and occupying indifferently, though each in turn, the one side or the other of the patient's body, according to the will of the operator.

We will at this point relate a most interesting experiment, that of induced aphasia (*aphasie provoquée*). Witt—— is in the state of sonambulism. We ask her to count. She begins, and pronounces in a monotonous manner, one, two, three, four, five, six. We open the *right* eye, and still she continues, seven, eight, nine, ten. At this moment we open the *left* eye, and she has on the instant ceased. We close the left, and she continues, eleven, twelve, thirteen. We open it, and she ceases. This is to say, opening the right eye has no effect upon language, while opening the left eye has obliterated it. We may repeat this experiment in many ways, and on many patients, always with the same result. She may be asked to repeat a verse familiar to her. The right eye is opened, and she still continues; the left is opened, and she stops short in the very midst of a word. When the left is closed she finishes this word and continues the verse, unless again interrupted. Or she may be asked to write a verse. The left eye is opened, and the pen pauses on the stroke of a letter; it is closed, and she continues. Opening the right eye has no effect upon her progress.

This is a striking corroboration of the theory that language resides in the left hemisphere, and it is interesting to know that it was communicated by Prof. Charcot to Prof. Broca some months before his death.

At this point we may leave Witt——. Her case is a very typical one, but there are others at Saltpêtrière in which the same phenomena may be equally well studied, some exhibiting one stage, some another, in different degrees of perfection. Now and then unusual and exceptional symptoms are presented, as in the following instance of an interesting young girl named F——. Meeting her at any turn of the wards or corridors, Prof. Charcot says: "Look at me a moment, F——." She obeys, and after about five seconds of intent gaze on her part falls slowly backward in a state of universal muscular contracture, in the form of opisthotonos. She is at the same time totally anæsthetic and insensible to all external surroundings. At the end of several hours she returns to consciousness and muscular flexibility. No means of arousing her have yet been found. Prof. Charcot regards this as a third stage of that general condition of which sonambulism and catalepsy form an allied part.

And now a few words as to the methods employed to bring about sonambulism and catalepsy. That most commonly in use is by the simple process of holding the finger, or, if preferred, a bright object near to and just above the eyes. This produces the first stage, or that of sonambulism. Another method is to place the patient in front of and facing a brilliant light—an electric or Drummond lamp—and cause her to look intently at it. In a few seconds, or perhaps a few minutes, the cataleptic state supervenes. By closing the eyes the patient then becomes sonambulic and vice versa. Or the cataleptic state in many patients may be instantly induced by the "sonorous vibrations" of a large tuning-fork, or by the loud sound from a Chinese gong struck unexpectedly. In fact, those subjected to these experiments seem soon to become so susceptible to any method that they fall at once into one stage or the other upon very slight provocation. With many indeed it is sufficient for the physician merely to close their eyelids suddenly while he is speaking to them, and they are at once sonambulic, and may then, as described, be made cataleptic.

In bringing about this sleep the personality of the operator is altogether unimportant. Prof. Charcot often turns to a visitor or a student and requests him to make the experiment, and in all instances the result is the same. Nor are any manipulations or passes made use of; they are unessential. It is perfectly understood and accepted that these phenomena are entirely subjective. The vagaries of animal magnetism, using the term in the sense that any influence passes from the operator to the subject, find no support at Saltpêtrière. Professor Charcot offers no explanations; he says simply, "facts first, theories afterward." But we may now see, from what has preceded in this letter as well as in others, that the study of sonambulism and catalepsy has been the very natural outgrowth of investigations into the nature of hystero-epilepsy, or we should now say with increased confidence, of hysteria major, for both of these conditions frequently occur spontaneously in hystero-epileptics, not only during the apparently normal interval between series of attacks, but also during the attacks themselves, replacing in the latter instance one or another of the well-known periods. The two directions of study then—sonambulism, catalepsy and allied states on the one hand and hysteria major on the other—form a very natural supplement and complement.

But I have already passed beyond the limits of a single letter. My only apology is that it has seemed to me that the readers of the RECORD will be equally interested with me in seeing these matters studied from a practical rather than a visionary standpoint; for these subjects are left too much in the hands of mediums, clairvoyants and charlatans, who, getting hold of a single available and apparently supernatural phenomena, play upon the wonder of the multitude. Or what is sadder still, such phenomena, having become in themselves a matter of repeated observation, and therefore facts, to the trained physician, are used by him as a basis upon which to erect theories of "magnetic influence," "influence of mind on matter," "mind reading," etc., etc., until, as a result, he himself and his readers are led off into the quagmires of the unknown. Be it the charlatan or be it the visionary scientist whom the community has followed beyond its depth, at last comes the opposite swing of the pendulum, and facts become now as much underrated as before overrated. More or less sceptical or more or less speculative seems to be the present state of the medical world's mind in regard to the phenomena described briefly in this letter. Of the measure of the former I will not speak—of the measure of the latter just a word of quotation from a recent medical work of apparently good authority will bear witness.

"Magnetism is the special action that the nervous activity of a person in health, and endowed with a *power* which, in want of a better term, we shall call magnetic, exercises on the nervous activity of another;" or again, "according to the law of influence the nervous activity of the operator vibrates in unison with that of the subject," etc. Here we have the speculative side of the question. But we have neither time nor space to criticise such views. We merely hold them up for contrast. On the one hand a "power" or influence residing in the operator or "magnetizer," and passing through intervening space to the subject; on the other the recognition of the fact that all the phenomena in question are subjective; that they reside in the personality of the patient, and may be excited into activity by a dozen and one methods, or, indeed, occur spontaneously; the recognition of the fact, in short, that we have to deal simply with the symptoms of disease. From this latter point of view the magnetizer, with his passes and counterpasses, his manipulations and his concentration of mind, his "nervous activity" and his special power, retreats into the mists of superstition, while at the same moment the physician steps forth into a field of investigation strictly within the domain of scientific medical study. Such, at least, are some of the reflections suggested by our morning clinic at Saltpêtrière, and inspired also, I may add, with equal ability on our own side of the Atlantic.

Very truly yours,
WILLIAM J. MORTON, M.D.

PARIS, August 20, 1880.

MEDICAL REGISTRATION LAW.

To the Editor of The Medical Record.

Sir:—A leading article in The Record, of October 9th, referring to the Medical Registration Law, observes that "the countersigning of diplomas that are granted outside the state does not appear to be very well understood." With this observation every one who has striven to elicit a consistent meaning from the clumsy phraseology of the Act in question must fully concur, and I crave tolerance for my presumption in doubting whether your editorial explanation satisfactorily solves the difficulty.

If section 4 stood by itself, the present participle, "coming," might, perhaps, be construed as implying a future sense; though, even so, it would be questionable if a person who came into this state on the 30th of September (*i.e.*, "before the 1st of October") could register an unendorsed foreign diploma.

But section 6 renews and aggravates the confusion of past, present, and paulo-past-future, and unsettles all the ideas which one may have laboriously derived from the preceding sections. "Nothing in this act"—that is, neither requirement of registration nor of endorsement of diploma—"shall apply to commissioned medical officers of the United States army or navy, or of the United States marine hospital service. Nor shall it" (presumably anything in this act) "apply to any person who has practised medicine and surgery for ten years last past, and" (mark the "and") "who is now pursuing the study of medicine and surgery in any legally incorporated medical college within this state, and who shall graduate from" (from whence is not mentioned) "and receive a diploma within two years from the passage of this act." If the peculiar syntax of this clause bear any meaning at all, it means that ten years of practice confer no immunity unless the practitioner be "now" (*i.e.*, at the date of the passage of the act) studying his profession in an incorporated medical college. It seems, also, to mean that if any person have seen fit to practise medicine and surgery for ten years before beginning to study, the question of his registration is to be deferred until two years shall have determined his possible fitness to "graduate from and receive a diploma." Setting aside grammar, however—as the originator of the act has manifestly done—it appears probable that the spirit of section 6 was intended to apply only to the endorsement of foreign diplomas, leaving registration as compulsory upon all practitioners; and from this point of view present matriculation in a state college is required to entitle a physician of ten years' practice to register a diploma from another state without paying twenty dollars to the dean of some domestic faculty for an endorsement. What would be the judicial construction of the amazing muddle of language contained in this act is beyond guessing; indeed, a legal friend, after much puzzling over its ambiguity, recently told me that he doubted f any judge living would attempt to interpret such an incongruous document.

Nevertheless, whilst waiting for either a judicial construction or a judicial giving up of the conundrum, it is, as you remark, desirable that our profesion should show its willingness to comply with any measure intended to elevate the status of medicine; and to the end of securing unanimity of action in this respect some discussion is needed. If, as you opine, "every man who came into the state before the 1st of October, with a diploma from outside the state," is entitled to registration without further inquiry, why is there the subsequent provision of a ten years' limitation? Suppose the case of a man who has been practising for some time here on the strength of a "single qualification" license from a minor British provincial school: is he authorized to register his inferior grade as a full and sufficient guaranty of his capability; or must his license be converted into a degree of M.D. by some home faculty? In other words, are our registration clerks to recognize the L.S.A., L.K.Q.C.P., etc., or does the act, in specifying (section 5) that "the degree of doctor of medicine, lawfully conferred by any incorporated medical college or university in this state, shall be a license to practise medicine and surgery within the state," exclude by implication degrees conferred outside of this state? In considering these questions it should be borne in mind that degrees from other states have never conveyed a legal right to practise here, each state alone conceding the title to practise within its own boundaries. Hence, the most rigorous construction of the "endorsement" clause would trench upon no vested rights, but solely upon the long-usual courtesy which it is to be regretted that the act did not explicitly extend to reputable schools elsewhere.

I am, sir, yours, etc.,

Alfred L. Carroll.

October 12, 1880.

[The questions raised in this communication have been referred to the chairman of the committee that had the matter of the passage of the act in hand. His reply is given below.—Ed.]

Interpretation of the Medical Act.

To the Editor of The Medical Record.

Sir:—It appears to the undersigned that most of the misapprehensions concerning the meaning of the act in question have arisen either from careless reading of the act itself, or from unacquaintance with previous acts undisturbed and unrepealed by this one. I will, therefore, with your permission, state briefly the force and intent of the different sections so far as I had any influence in their construction.

Sec. I. No question, I believe, has ever been raised as to the meaning of this section.

Sec. II. Declares that all persons legally practising at the time of the passage of the act (or rather twenty days thereafter*) shall register, etc. It has been asked who were legally practising at that time, and hence entitled and obliged to register. I can only reply by quoting the words of the last previous medical act, that of April 11, 1874, which admits to practice those "authorized to do so by a license or diploma from some chartered school, state board of medical examiners, or medical society." This, I conceive, includes the lawful holders of diplomas or authorizations to practise, from other states and foreign countries, who were, at the time the act went into effect (twenty days after its passage, which was May 29, 1880), practising in the state.

The word "coming" in the fourth section *is* to be taken in a *future* sense, and certainly does not apply to the persons just mentioned, who had already come and were engaged in practice. These persons were already licensed practitioners by the Act of 1874.

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* Unless otherwise specified, a statute of this state does not go into effect until twenty days after its passage.

Coming now to section 6, it certainly seems to me that its meaning is sufficiently clear down *to* the words "nor shall it." I quote this portion: "Nothing in this act shall apply to commissioned medical officers of the United States Army, Navy, or of the United States Marine Hospital Service." I cannot imagine any other meaning than that the state did not wish to interfere in any way whatever with the medical officers commissioned by the general government. Section 6, as presented to the legislature by the committee of the State Society, terminated at the word last quoted ("service"). It so passed the Assembly. It so stood when the State Society's committee were given a hearing on the bill by the Senate Committee on Public Health, May 12, 1880.

Later, I received from Albany a letter dated May 26th, and containing the following: "Our bill passed the Senate with an amendment exempting persons who had practised ten years. It was not as I desired it should be, but thought we had better take it than nothing. . . . . The amendment was the work of ——— ——— ———."*

The amendment referred to reads as follows: "Nor shall it apply to any person who has practised medicine and surgery for ten years last past, and who is now pursuing the study of medicine and surgery in any legally incorporated medical college within this state, and who shall graduate from and receive a diploma within two years from the passage of this Act."

My first knowledge of the details of this amendment was when I read it in the certified copy of the act received from the Secretary of State a few days after its passage. Not being in the counsels of the person that procured this amendment, I am not prepared to offer any authoritative interpretation of what it was *intended*† to mean. Your correspondent and others may do as I have done—guess at it. My own surmise is, that the amendment was intended to exempt from registration and prosecution for practice for two years, those persons who, for ten years, had practised without legal qualifications, and who, at the time the act went into force,‡ were already matriculants in a medical college in this state. A larger number of persons, I conceive, however, could have availed themselves of this amendment if they had so chosen. For instance—both your correspondent and myself. If, for any reason, we desired not to register (at a cost of fifty cents), we could have matriculated (cost five dollars) at a medical college within the proper time.‡ Practically, however, I do not believe that a dozen unqualified practitioners in this state were in a position to avail themselves of this exemption clause. The great majority of such persons were not matriculants in a medical college at the time.§

I cannot follow your correspondent into the intricacies and "confusion of past, present, and paulo-past-future" of medical legislation in this state. The "past" he can acquaint himself with by perusing the compilation of the medical acts of the state since 1806, recently published by the State Medical Society; the "present" we have vividly before us; the "paulo-past-future" I shall not attempt to speculate on.

In the latter portion of his communication your correspondent raises some important questions. Before considering them, however, it should be understood (1) that the Act does not make a legal practitioner of any one who was an illegal practitioner at the time the Act went into effect, except such as are exempt by the latter portion of section 6; (2) that no one legally practising at that time becomes an illegal practitioner, except such as fail to comply with section 2 of the Act; (3) the county clerks, for obvious reasons, are not made the judges of who are and who are not legal practitioners; (4) the admission of an unqualified practitioner to registry does not thereby necessarily make him a legal practitioner; (5) the county clerk, so far as he uses his discretion in permitting and not permitting persons to register, must do so in accordance with the provisions of this Act, taken together with those of the Act of 1874; (6) the Act of 1880 was not intended to disturb the status of any legal practitioners, nor does it do so except in so far as it obliges them to register if they wish to continue to be legal practitioners.

Your correspondent alludes to foreign minor degrees and asks "are our registration clerks to recognize the L.S.A., L.K.Q.C.P., etc., or does the Act, in specifying (section 5) that 'the degree of doctor of medicine, lawfully conferred by any incorporated medical college or university in this state, shall be a license to practise medicine and surgery within the state,' exclude by implication degrees outside the state?" The law of 1874 made the diplomas of all medical colleges in the state licenses to practise, thereby repealing the provision in the Revised Statutes which declared that "the degree of doctor of medicine, conferred by any college in this state, shall not be a license to practise physic or surgery." The law of 1880 (section 1) confirms this portion of the Act of 1874, and provides (section 5) that this "shall be" the case in the future, or rather until the Legislature sees fit to change its mind on the subject. Section 5 excludes nothing. The other sections of the Act provide for that.

The minor degrees of foreign countries were not licenses to practise in this State prior to 1874. Whether they became such through this Act, thereby entitling the holder to registry, is a question that cannot be definitely answered except by a judicial opinion from the Court of Appeals. This has been an open question since 1874, which no one has yet thought it worth while to bring to a legal issue. At least, so far as I am aware, there has been no legal decision on the point. Certain it is, however, that the minor degrees referred to will not be licenses to practise in the hands of persons hereafter coming to this country.

Your correspondent regrets that the "long-usual courtesy" was not by the Act extended "to reputable schools elsewhere."

If he will take the trouble to prepare a clause satisfactory to the majority of the profession that will effectively exclude from this state bogus and low-grade diplomas, without at the same time interfering with the holders of diplomas from reputable colleges, and which clause would stand the ghost of a chance of becoming law, he will accomplish more, I am frank to confess, than the State Society's committee believed itself capable of doing. No one more than myself regrets the necessity for this seeming discourtesy to the reputable colleges referred to.

I remain yours, respectfully,

HENRY G. PIFFARD,

Chairman of the Committee on Legislation of the Medical Society of the State of New York.

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* Here was given the name of a well-known citizen of Erie County.

† What it *does* mean, I think should be clear to any one acquainted with the English language as usually written.

‡ Twenty days after May 29, 1880.

§ Those desiring further information concerning the meaning of this portion of section 6 may read the opinion of Judge Church, of Erie Co. in the October number of the *Buffalo Med. and Surg. Journal.*

OVARIAN TUMOR COMPLICATED WITH PREGNANCY.

SUCCESSFUL OPERATION.

To THE EDITOR OF THE MEDICAL RECORD.

SIR:—I was called, in consultation with Dr. Thos. Carson, June 20, 1880, to see Mrs. C. R——, æt. 28, married December, 1879, always had good health up to present illness, good family history. About February 1st she had ceased to menstruate; she thought she was pregnant, and although soon after this she began to fail in health, she did not call a physician until about April 1st. From this time until I saw her she had been confined to bed, had suffered but little pain, but was weak and had difficult breathing. At my visit I found patient with abdomen enormously swollen, very much prostrated, rapid pulse, breathing oppressed. After careful examination I made diagnosis of ovarian tumor, with pregnancy, which was concurred in by attending physician. I recommended that the tumor be aspirated, and that the pregnancy be left alone for the present, in the hope that abortion would occur before the tumor would again fill. This being agreed to, I aspirated the tumor, and withdrew thirty pounds fluid serum. The gravid uterus could then be distinctly felt, and there now seemed to me to be no doubt as to the correctness of the diagnosis. The operation was followed by great relief, and the patient improved in a general way every day. On July 1st miscarriage occurred, and a seemingly well-developed fœtus of five months was delivered, everything occurring in the natural way, and was followed by no bad symptoms. The tumor at once began to fill, and by July 30th was almost as large as at my first visit; she was suffering greatly from dyspnœa, rapid pulse, and fever. I again aspirated the tumor, but found the contents to be *pus*. I partly evacuated the tumor, withdrawing seventeen and a half pounds of pus, with but little relief to the patient. I then informed the patient that her only hope of life beyond a few weeks was to submit to an operation for the removal of the tumor, and the case would not admit of delay. After two weeks' deliberation she finally consented to have the operation performed. On the 16th of August I performed the operation, assisted by Dr. Thos. Carson, Dr. John Carson, Dr. W. T. Lannier, Dr. W. W. Leech, and Dr. W. W. Johnston. Her condition seemed to be almost hopeless; coated tongue; pulse, 120; temperature, 103.5°; extremely prostrated. It is not my intention to go into the full details of the operation, as they are in many respects familiar to all, but simply to refer to some of the more important points. The Lister spray was used, and full antiseptic precautions taken in detail. The tumor was multilocular, the larger cyst containing pus, the smaller ones serum (proving that even the *small* aspirating point may cause inflammation of the cyst-wall). The tumor was adherent to the omentum and to anterior surface of abdomen in several places quite firmly. The adhesions were all separated by the hand, except those of the omentum; that was ligated and cut, leaving ligature on omentum. The pedicle was ligated by double ligature, linked as suggested by Emmet. And now comes what I deem the most *important* part of the operation, the *thorough cleansing* of the abdominal cavity. *One hour* was spent in this; bleeding or oozing points upon the surface of the abdomen, that did not *entirely dry* by hot water and Monsel's sol., were carefully lifted by tenaculum, and a small ligature passed around and cut close; in this case *seven* points were so ligated. Sponges were used until they returned perfectly clean from all parts of the abdominal cavity. The abdominal wound was closed with silver sutures, and the surface of abdomen covered with salicylicated absorbent cotton, covered with oil-silk, and retained by adhesive plaster and bandage.

Not an untoward symptom occurred; she rallied from the operation well. Not a dose of anodyne, or *any other* medicine, was used after the operation. She was moderately nourished by beef-tea, etc., during the first week; solid food allowed after that. The external wound healed by first intention throughout, the high temperature and rapid pulse soon began to improve, and in two weeks were normal. At this date, October 7th, the patient is walking about.

J. L. CRAWFORD, M.D.

SALTSBURG, INDIANA CO., PA.

ERGOT-POISONING.

To THE EDITOR OF THE MEDICAL RECORD.

SIR:—In the number of THE MEDICAL RECORD of September 18, 1880, page 318, Dr. J. M. Keating, of Philadelphia, reports a case of ergot-poisoning, post-partum, in a woman who had previously suffered from some uterine troubles, ʒ ss. of fluid extract of ergot having been administered by the nurse every half hour "by misunderstanding," in anticipation of or to prevent returning uterine hemorrhage, following "ʒ ij. of the fluid extract administered by the doctor (who attended the delivery) himself," "after the uterus was well emptied, and the binder applied." After relating the symptoms of the patient, which he attributed to the action of the ergot, he says: "Upon inquiry I learned that in all she had taken about ℥ ss. of the fluid extract of ergot (and this was afterward corroborated by the medical attendant from the amount left in the bottle, which he himself had brought to the house)."

In the *Philadelphia Medical Times* for July 17, 1875, page 657, I reported a case of placenta prævia in which it is found I ordered "a teaspoonful of Squibb's fluid extract of ergot every half-hour," and by reference to that report it will be seen that the patient, up to, or previously to, the delivery, "had taken, in about twelve hours, an ounce and a half of fluid extract of ergot without injurious effects." It acted promptly and energetically in expelling the fœtus (one of six months) with the placenta, the latter first, with perfect safety, the case ending "without accident of any kind—with the loss of scarcely a drop of blood." "The powerful uterine contractions," "one of the most interesting features of the (Dr. K.'s) case," was also observed in mine; but what proved salutary in my case seemed to be detrimental in his.

My intention, therefore, is simply to call attention to another obstetrical case where ℥ iss. of Squibb's fluid extract of ergot was given, in about twelve hours, without detriment, "without injurious effects," and to show that, while there may be idiosyncrasies or conditions in which it may not be given with impunity, there may be other cases where it may be administered, not only safely, but with absolute benefit, even in largely repeated doses. In a large experience, I might say I have never seen a case of what might be termed real ergotism, or the toxic effects of the medicine, and I have used it freely and largely, not only in uterine, but in other affections; and may it not be suggested, that the "placental adhesions of great firmness, and, in consequence, more than ordinary amount of hemorrhage," in his case, were prominent factors in producing the symptoms, such as might occur from slight or temporary embolism, etc., and not the ergot. I say suggested, because I am attached to ergot, and do not like to abuse an old friend. S. J. Radcliffe, M.D.

1211 F St., N. W., Washington, D. C.

THE "AMERICANIZED" METRIC SYSTEM.

To the Editor of The Medical Record.

Sir:—The advantages which would follow the use of the metric system have been proclaimed in nearly every city and town of the United States, and it is, therefore, unnecessary for me to present any arguments in its favor.

Most physicians appreciate these advantages, and a large number are using it in their prescription writing. A majority of the pharmacists have provided themselves with the necessary weights and measures, and are anxiously waiting the day when they can discard the time-honored drachm and ounce.

But, notwithstanding this gratifying appreciation, the system is not coming into use as rapidly as it should. In considering the subject, it has seemed to me that there are two reasons for it. 1. Many physicians, either through ignorance or prejudice, have not acquainted themselves with the system; and 2. Those who have acquainted themselves with it are afraid to prescribe by it, because they know their prescriptions might fall into the hands of a druggist who is not supplied with the metric weights and measures, and who is, moreover, ignorant of the rules for converting the metric to the Troy weight.

What, then, is necessary? Evidently some simplification and explanation of the terms used, and rules for conversion that are easily understood; so simple that one "running may read and be free from error." It is with this necessity in mind that I have arranged the following on the back of the ordinary prescription blank.

APOTHECARIES' AND METRIC WEIGHTS.

Equivalents—practical.

Troy Wt.	Grams.	Troy Wt.	Grams.
gr. 1—60	.001	grains 24	1.60
" 1—30	.002	" 30	2.00
" 1—20	.003	" 36	2.40
" 1—16	.004	" 40	2.66
" 1—12	.005	" 50	3.33
" 1—10	.006	" 60	4.00
" 1— 8	.008	drachms 2	8.00
" 1— 6	.011	" 3	12.00
" 1— 4	.016	" 6	24.00
" 1— 3	.022	ounce.. 1	32.00
" 1— 2	.033	ounces.. 2	64.00
gr. 1	.066	" 3	96.00
" 2	.13	" 4	128.00
" 3	.20	" 6	192.00
" 4	.26	" 9	288.00
" 5	.33	" 10	320.00
" 6	.40	" 12	384.00
" 8	.53	" 16	512.00
" 10	.66	....	....
" 12	.80	....	....
" 15	1.00	....	....
" 16	1.06	....	....
" 18	1.20	....	....
" 20	1.33	....	....

In order to simplify the Metric System, it has been thought best to have two units only, viz.:

The Gram, equivalent to fifteen grains or one-quarter drachm.

The Fluigram (or cubic centimetre), equivalent to fifteen minims, or one-quarter fluid drachm.

If the druggist has not the Metric Weights and Measures, he can easily convert the prescription (on the other side) into Troy weight, as follows: Multiply the figures on the right side of the vertical line by fifteen, and divide by one hundred, and the result will be grains. Divide the figures on the left side by four for drachms, and by thirty-two for ounces.

It will be noticed that there are several changes from the strict ruling of the metric system. First, and most important, is the substitution of the term fluigram for the cubic centimetre. This term was first brought to my notice by Professor Oscar Oldberg, in an article on The Pharmacopœia of 1880, Medical Record, August 14, 1880. He gives the credit of the suggestion of the term to Mr. Alfred B. Taylor. This term connects the unit of measure (the cubic centimetre) to the gram in the same manner that the old fluid drachm was connected to the drachm. It has been said by some, in objection to the new term, that it is carrying into the new system a fault of the old. This is not true, however, for although it is a fault in the old system to connect in nomenclature the drachm and fluid drachm, it ceases to be a fault when applied to the metric system, for in it the gram and cubic centimetre are the same—*practically*.

Again, it will be noticed that the gram is made equivalent to exactly fifteen grains. This is not exactly true in reality, for the gram is equal to 15.43234874 grains, but, if we are going to be accurate, we should have to consider these eight decimals. This would be almost impossible, certainly impracticable. If we are going to be practical, why not be really so, and make the standard for calculations a tangible number? Agreeable with this standard, we have 18 grains equal to 1.20 gram; 20 grains, 1.33 gram. At the time my blank was printed, I thought myself alone in making the gram equivalent to fifteen grains, but since then I have discovered that Prof. Oldberg has advocated it for several years.

Finally, it will be noticed that rules are given for the conversion of metric into Troy weight, and it may be well to explain them. All figures on the right of the line represent fractions of a gram; *e.g.*, take .20, it is $\frac{20}{100}$ of a gram, or $\frac{20}{100}$ of 15 grains=3 grains. The figures on the left represent entire grams, and should be divided by four for drachms and by thirty-two for ounces. A table of equivalents is added, which may be used to correct any mistakes in calculation. This table and rules remove, it seems to me, all objections ever urged against the metric system, and I hope it may play a small part in popularizing what should be *the* system of the world.

Geo. N. Kreider, A.B., M.D.

Springfield, Ill.

THE TREATMENT OF VOMITING OF PREGNANCY BY ETHER-SPRAY.

To the Editor of The Medical Record.

Sir—There is no disorder consequent upon pregnancy which so defies the skill of the physician, and which renders the patient more hopelessly miserable, than the one under consideration. I can conceive of no case in obstetrical practice which, when the patient is reduced to an alarming degree of exhaustion, is so thoroughly demoralizing to the young practitioner, who, perhaps, is inexperienced, and does not consider the grave moral responsibility attendant on abortion, and unwittingly yields to the solicitations of some of the household to the performance of the operation. Such a procedure not only destroys the life of the fœtus, but also jeopardizes the life of the mother. We apprehend that when it is a mere question of freeing the woman from the risk of a contingent, though not immediate danger, we are in no case justifiable in sacrificing the life of the child, and we must, therefore, under such circumstances, dissent from the conclusions of those who would sanction such a proceeding in any condition of the mother that does not indicate extreme peril. Now, I was placed in precisely this predicament, and, contrary to the wishes of the husband, refused consultation with a physician (?) who had asserted to some old women that, were he in attendance, he would certainly perform abortion.

The following case shows conclusively the propriety of judicious conservatism and the success of the treatment by ether-spray. Mrs. S——, aged thirty years, pluripara, two and a half months pregnant, had vomited almost incessantly from the first three weeks of her pregnancy. For four weeks she vomited every few minutes, and the smallest spoonful of fluid set up at once the most violent contraction of the stomach. In a word, the symptoms were so grave that I had almost decided that abortion was the only alternative left to me to prevent death from exhaustion. I now called in Dr. Porter (U. S. A.) for consultation, but as all the possible remedies had been tried without avail, further medication seemed entirely out of the question. I conceived, however, the idea that freezing the pneumogastric near its origin might possibly control the intensely irritable stomach, and suggested it to the doctor, who also reasoned that my theory was sound and logical, and in view of this fact we at once commenced the process of freezing the nerve in its track, under the sterno-mastoid, on both sides of the neck alternately. The effect was indeed remarkable, for decided benefit was observed after the first trial, and during the first twenty-four hours the woman vomited only four times, and in three days the vomiting ceased entirely. This process was performed every two hours the first day, and at much longer intervals during the second and third days, and continued ten minutes at each sitting—the pulse was closely observed.

The stomach, in sympathy with the pregnant uterus, becomes intolerant to both solids and fluids, and energetic contraction is set up when such are taken into it, a reflex phenomena produced in consequence of the intimate connection which exists between the uterus and nervous and digestive systems, a sympathy which a knowledge of the origin and distribution of the pneumogastric and sympathetic nerves would lead us to expect. As the muscular coat of the stomach is paralyzed by section of the pneumogastric, a similar, though less decided, effect may be produced by benumbing the nerve by the use of the ether-spray, and thus controlling the abnormal peristaltic action of that organ, hence controlling the vomiting. Again, it may be advanced that the sympathetic was in some way influenced by this freezing process, but as to that I am not prepared to say. As I have not met with any description of a similar method of treatment, or come in contact with any one who has employed it, I feel impelled to place it before the profession as a possible discovery in that department of medicine.

F. W. Lester, M.D.

Key West, Florida.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 10, 1880, *to October* 16, 1880.

Lippincott, H., Capt. and Asst. Surgeon. Granted leave of absence for six months. S. O. 218, A. G. O., October 12, 1880.

Pope, B. F., Capt. and Asst. Surgeon. Having reported at these headquarters, is assigned to duty at Fort Sully, D. T. S. O. 122, Department of Dakota, October 9, 1880.

Wilson, Wm. J., Capt. and Asst. Surgeon. Having reported at these headquarters, is assigned to duty at Fort Meade, D. T. S. O. 121, Department of Dakota, October 6, 1880.

Matthews, W., Capt. and Asst. Surgeon. Having reported at these headquarters, is assigned to duty at the Cantonment on the Uncomphagre, Col. S. O. 223, Department of the Missouri, October 8, 1880.

Semig, B. G., Capt. and Asst. Surgeon. Fort Fred. Steele, Wyo. Ter. Granted leave of absence for one month. S. O. 95, Department of the Platte, October 9, 1880.

Shannon, W. C., Capt. and Asst. Surgeon. Granted leave of absence for six months. S. O. 220, A. G. O., October 14, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 16, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Oct. 9, 1880.	0	16	58	2	11	97	0	0
Oct. 16, 1880.	0	14	54	5	21	94	2	0

A **Loving-Cup** of solid silver, lined with gold, has been presented by Mr. Edwin Booth to Dr. Ghislani Durant, as a testimonial of his regard for the personal and professional attainments of the Doctor. The loving-cup, says a writer in *Harper's Weekly*, was first introduced by Margaret Atheling, wife of Malcolm Kenmore, in order to induce the Scotch to remain for grace. It was filled with the choicest wines, of which the guest was allowed to drink *ad libitum* after grace had been said. On the introduction of Christianity, the custom of wassailing was not abolished, but resumed a religious aspect. The monks called the wassail cup *poculum carita.* The term is still retained by the London Guilds, who use it in their meetings. In drinking from the loving-cup, two adjacent persons always stand up together, one to drink and the other to pledge his safety while so occupied.

A **Report on the Adulterations of Drugs** has been made to the National Board of Health by a Committee of the Philadelphia Drug Exchange. The report considers the propriety of legislation to prevent the adulteration of medicinal drugs, and it concludes that such legislation would be unwise, impracticable, and unnecessary. The actual amount of drug adulteration is believed to be small; and retail druggists and physicians are able to get pure drugs without difficulty, if they make the effort. Any legislative interference with the manufacture of the various preparations of drugs would be liable to do great injury to the manufacturers. The report and conclusions of the committee were adopted by the board of directors of the Philadelphia Drug Exchange. The report presents the matter in the best light for the Drug Exchange, but there is no doubt that its conclusions are essentially correct.

Bellevue Hospital Medical College.—The annual meeting of the Alumni Association of this College was held at Pinaud's, Monday evening, October 18, 1880, the President, Dr. A. A. Smith, in the Chair. The time for holding the annual meeting was changed to the evening of the yearly commencement exercises of the College. The following Alumni were elected officers for the ensuing year: J. Taber Johnson, of Washington, D. C., President; Laurence Johnson, of New York, and N. A. Ewing, Vice-Presidents; G. H. Swazey, Recording Secretary; Robert Newman, Corresponding Secretary; W. H. Katzenbach, Treasurer; F. A. Castle, Historian; G. W. Wells, member of the Executive Committee; Drs. T. H. Burchard and T. R. Pooley were appointed as a committee to escort the newly-elected officers to their seats. In absence of the President-elect, the Vice-President-elect took the Chair and thanked the Association, both for Dr. J. Taber Johnson and himself, for the honor conferred upon them. The retiring President, Dr. A. A. Smith, Professor of Materia Medica, Therapeutics, and Clinical Medicine in the College, then delivered the Annual Address, which was listened to with marked attention. The Association then adjourned to partake of a substantial repast. Within the last year Dr. Charles H. Sayre, of New York, and Dr. A. D. Felton, of Saratoga Springs, have been removed by death.

Answers to Correspondents.

Professional Competition.—Would you please to give the benefit of your valuable advice to our medical society upon the following: Our town has three thousand inhabitants and eight practitioners of medicine and surgery. Each doctor is the soul of honor, has a family diploma, a copy of the Code, and a secret longing for a specialty. Each one would like to announce his specialty; but that requires the renouncing of his general practice. After many warm debates we have become divided into two parties, and now we want you to bring about harmony by deciding which of these two is the best plan.

One party propose that we organize a medical college, each one taking a chair, which, of course, notifies the public what each man's specialty is, and yet allows of general practice, not to speak of the fees of the students or how much practice the title of "professor" might bring from a distance. I rather favor the idea. The other party oppose this (but they always oppose what we want); they want us to work under the law regulating the practice of medicine, which requires a diploma or a license from a county medical society. They say that each man could take ten students at two hundred dollars each, and after a year's study these students might come before us, we acting as a board of censors, and receive their license to practise by paying the same fee as they would for a diploma, which would be fair, as it amounts to the same thing. By this plan each man can examine in the specialty he wishes, and, of course, the public would soon find it out. I am well acquainted with the newspaper men, and our specialties would be advertised as well as by a professorship, and we make as much money.

I don't want to influence your decision; but, if you do decide for the college plan, don't you think it would have a good effect for us to insist upon the amended Hippocratic oath as used in Oregon, add to it the entire Code, and require each graduate to commit it to memory? You know that if the Code was taken away there would be nothing left of the practice of medicine.

The other party urge that as a society we have much more power than as a college, for a society can fix a fee-bill, and, by refusing or revoking a license to practise, dictate who shall practise, and in that way keep out competition. Yours anxiously,

Chloral Hydrate, M.D.

Since writing the above we have had another meeting, and it looks as if both plans would be put in operation. I am afraid there won't be students enough to go around.

Later.—More trouble! A strange doctor has located here with a microscope and a battery, and he has got all the preachers' families on his list. Of course there is no money in them, but think of their influence! I was appointed to inquire about his school. He said Darwinian; and when I wanted to see their code, he said it was too short to print—"The survival of the fittest." I don't understand him. We badly need his initiation fee and dues, so some of us think we had better compel him to join us according to law; but he has said that he could use his money and time to better advantage by buying and reading the Medical Record and other first-class journals, than to attend our medical caucuses; but, he said if we started a college, and did as they have done in Detroit—each professor publish his own medical journal—that he would subscribe. Why couldn't we? We are puzzled and divided about this fellow, as to whether we had better not compel him to join us and then revoke his license for "unprofessional conduct" (he took one of my patients away from me the other day without my written permission); besides, he says we are only a doctors' trades union, and the people are beginning to find us out. One-half of us are afraid we can't make him join us, and the other half are afraid he will yet insist upon joining.
C. H.

Rocky Mountain Medical Society,
Arapahoe Peak, Colorado, Oct. 1, 1880.

[There is, no doubt, room for a medical college in that locality, and each practitioner can select his specialty without overcrowding the faculty. What is left for general practice can then be handed over to any new comers. The microscope and battery be effectually disposed of by keeping them in the institution, as well as the man who knows how to use them. The faculty and county society can have the same members, one body endorsing the action of the other. Similar plans have worked well with other influential bodies having joint interests. If the college term is made short enough, and the fees proportionately low, there will be no difficulty in getting students. There will not be much danger of damaging competition by outsiders if the clinics of the college are kept in a flourishing condition, especially if the local papers show becoming enterprise. If promising young men settle in the place despite these drawbacks, it is just and proper to give them a chance to make their reputations by electing them clinical assistants. Should the worst come to the worst, each member of the faculty might publish a journal in his specialty and become a corresponding member of the Associated Press.—Ed.]

Books Received.

The Physician's Visiting List for 1881. Philadelphia: Lindsay & Blakiston.

Rev. Mr. Dashwell, the New Minister at Hampton. By E. P. B. American News Company, New York.

TABLE CONTAINING FORTY-EIGHT CASES OF VESICAL AND URETHRAL CALCULUS,

Under the Care of Prof. GEORGE E. POST, M.D.,

OF THE SYRIAN PROTESTANT COLLEGE, BEIRÛT, SYRIA.

Compare table in Medical Record *No.* 351, *July* 28, 1877.

I.—Vesical Stones Removed by Perineal Section in the Male.—*Numbered as in Case-book.*

No.	Name.	Age.	Residence.	Date.	Duration.	Operation.	No. of stones	Shape.	Weight. Gms.	Time of return of urine per urethram.	Analysis.	Results.
98	Husein.	8	Dhunnîyah, Mt. Lebanon.	Apr. 1, '77.	Fr. infancy.	Post.	1	Dumb-bell.*	15	18 days.	Phosphates.	Recovery.
100	Khalil.	36	Mardin.	Apr. 21, '77.	Fr. infancy.	Lateral.	1	Oval.	52.50	Not noted.	Oxalate of lime	Recovery.
101	Abdullah.†	8	El Khiam.	Jun. 30, '77.	... .	Post.	2	Concavo-convex.	37.50	8 days.	Phosphates.	Recovery.
102	Iskander.	6	Rasheiya.	July 18, '77.	....	Post.	1	Oval.	1.40	5–15 days.	Phosphate of lime & urates.	Recovery.
103	Wadi.	3½	Shweyfât.	Aug. 1, '77.	18 months.	Lateral.	1	Spherical.	0.9‡	3–7 days.	Phosphates.	Recovery.
104	Guirguis.	2½	Kahhâly.	Aug. 7, '77.	1 year.	Post.	1	Flat-oval.	1.5	6–15 days.	Uric acid and urates.	Recovery.
105	'Ali.	20	Akkar.	Aug. 11, '77.	10 years.	Lateral.§	1	Flat-triangular.	122	22–41 d'ys.	Phosphates.	Recovery.
108	Hanna.	45	Zuk Mikaïl.	Aug. 27, '77.	2 years.	Lateral.	3	2 flat ovoid 1 pyramidal.	18	8–20 days.	Uric acid.	Recovery.
111	Yusuf.	3	Zagharta.	Sep. 25, '77.	3 months.	Lateral.	2	Rhomboid'l lenticular.	9	31–41 d'ys.	Phosphates.	Recovery.
112	Abdullah.	10	Lattakia.	Oct. 27, '77.	Infancy.	Lateral.	1	Spheroid.	28	2–8 days.	Nucleus of urates, crust of oxlte. of lime.	Recovery.
114	Ibrahîm.	20	Akkar.	Jan. 12, '78.	....	Lateral.	1	‖	4.30	18 days.	Phosphates.	Recovery.
116	Istephan.	75	Kessab.	Mar. 16, '78.	2 years.	Post.	1	Ovoid.	50.59	....	Uric acid with crust of phosphates.	Death.¶
117	Ghalib.	1½	Beirût.	Apr. 1, '78.	8 months.	Lateral.	1	Ovoid.	2.15	2–4 days.	Phosphates.	Recvry.**
118	Mohammed.	60	Arvad.	Apr 17, '78.	2½ years.	Post.	1	Flat oval.	46	3–10 days.	Uric acid.	Recvry.††
119	Ibrahîm.	25	Lattakia.	May 25, '78.	18 years.‡‡	Lateral.	1	Oval.	4.15	From time of operatn.	Oxalate of lime on a nucleus of urates.	Recovery.
121	Ibrahim.	7	Lattakia.	July 9, '78.	2 years.	Post.	1	§§	10.5	13 days.	Uric acid.	Recovery.
122	Mohammed Tawfik.	4	Tripoli.	July 23, '78.	2 years.	Post.	1	Irregular rhomboidal.	14	8–13 days.	Phosphates.	Recovery.
123	Amin Abu Dhahir.	30	Wadi Shahrûr, Mt. Lebanon.	July 29, '78.	5 years.	Italian with bilateral section of prostate.	1	Flat-ovoid.	31.5	26 days.‖‖	Phosphates.	Recovery.
124	Mohammed.	35	Beirût.	Aug. 27, '78.	6 years.	Post.	2¶¶	Oblong flat rhomboid.	6	2 days.	Urates.	Recovery.
125	Abd el Bâsit.	3	Beirût.	Oct. 21, '78.	1 year.	Post.	1	Flat ovoid.	4.5	2–6 days.	Nucleus of urates, crust of phosphates.	Recovery.
127	Yeyork.	5	Adana.	Oct. 28, '78.	From birth.	Post.	1	Flat ovoid.	3	12 days.	Urates.	Recovery.
128	Michail.	3	Beirût.	Oct. 28, '78.	5 months.	Italian.	1	Flat ovoid.	1	5–12 days.	Phosphates.	Recovery.
129	Michail.	12	Beirût.	Oct. 28, '78.	2 years.	Lateral.	1	Irregular ovoid.	11	4–71 days.	Nucleus of urates, crust of oxlte. of lime.	Recovery.
130	Michail.	2½	Beirût.	Jan. 11, '79.	2 months.	Lateral.	1	Flat ovoid.	0.5	2–16 days.	Urates.	Recovery.
131	Girgy Mukbil.	2	Beirût.	Feb. 4, '79.	6 months.	Lateral.	1	Spheroid.	0.5	2 days.	Phosphates.	Recovery.
132	Najib.	2	Akkar.	Apr. 28, '79.	10 months.	Italian.	1	Oval.	3	8 days.	Urates.	Recovery.
135	Muhyed Dîn.	7	Beirût.	Jun. 25, '79.	Infancy.	Post.	1	Long ovoid.	0.5	2 days.	Urate of lime.	Recovery.
138	Badrus.	12	Adana.	July 21, '79.	5 months.	Post.	1	Ovate acuminate.	13	9–20 days.	Uric acid with crust of phosphates.	Recovery.
140	Androûs.	65	Beirût.	Oct. 7, '79.	1½ year.	Post.	11	Cuneiform.	153		....	Death.***
142	Constantine.	8	Adana.	Oct. 15, '79.	1½ year.	Post.	1	Flat oval.	8	28 days.	Trifle phospte.	Recovery.
143	Yusuf.	3	Adana.	Dec. 10, '79.	6 months.	Post.	1	Flat oval.	7.3	6 days.	Urates.	Recovery.
144	Shakir.	2½	Beirût.	Jan. 10, '80.	1 year.	Post.	1	Flat oval.	2	6–10 days.	Phosphates.	Recovery.
145	Salim.	4	Beirût.	July 6, '80.	6 months.	Post.	1	Flat oblong.	4.75	1–8 days.	Uric acid.	Recovery.
146	Hassan.	20	Acre.	July 7, '80.	Childhood.	Post.	1	Oblate spheroid.	37	8–20 days.	Oxalate of lime	Recovery.

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* The shape of this stone was that of a dumb-bell with unequal ends, the total length being 1¾ inch, the diameter of the broader end 1 inch, that of the narrow ½ inch, and that of the connecting length ⅜ inch.

† The operation was done for me by Dr. Brigstocke, M.R.C.S., London, during my absence from Beirût. I took the case in charge a few days after the operation.

‡ This calculus crumbled in the forceps, and half of it was lost with the gush of urine. Its weight should have been 1.50 grammes.

§ The reason for the choice of the lateral operation was a pseudo-anchylosis of the right hip which prevented the flexing of that thigh, and even greatly impeded the lateral operation on the left side. In this case there was no notable hemorrhage at the time of the operation, but serious secondary hemorrhage on the tenth day. It was controlled by the use of liquor ferri perchloridi, and the case made a favorable cure.

‖ The shape of this calculus, which was of very large size in comparison to its weight, was oblong and very irregular in shape. The impression given of considerable size in sounding led to the choice of the operation of lithotomy rather than lithotrity, which would have been preferable in this case.

¶ Operation done without anæsthetic. Much hemorrhage during and after operation, arrested by liquor ferri perchloridi. To make more effective pressure on the neck of the bladder and prostate, a sponge was introduced into the rectum and left there. Vomiting supervened on the operation and continued for twenty-six hours, apparently from the reflex irritation of the sponge, as it ceased on its removal, and the patient made a good rally. His strength, however, began gradually to give way, and he died on the sixth day of exhaustion. No coma until within seven hours of his death. No post-mortem was obtained

** In this case the father avers that the boy began to have symptoms of stone eight months previously, and that they then entirely disappeared for six months, when they reappeared and continued up to the date of the lithotomy.

†† Hemorrhage at time of operation trifling, and none externally after it. There was, however, bleeding from the neck of the bladder into the viscus for about eight hours after the operation, which was controlled by gm. 4 of tinct. ergot every hour. Since then no hemorrhage.

‡‡ At the age of seven years he was cut by a native charlatan, and a stone removed. He says that he has nevertheless had symptoms of stone ever since.

§§ The shape of this stone was oblong with one smaller end curled

II.—VESICAL STONES IN THE FEMALE.

No.	Name.	Age.	Residence.	Date.	Duration.	Operation.	No. of stones	Shape.	Weight, grams.	Analysis.	Results and remarks.
99	Mariam.	30	Jubail.	April 7, '77.	4 years.	Nicking of meatus and extraction.	1	Oval.	29	Phosphate and carbonate of lime.	Occurred after parturition. The stone presented at the meatus, and was removed by simply nicking the orifice and prying it out with the forefinger in the vagina. The incontinence caused by the long dilatation of the neck of the bladder, owing to the presence of the stone, was not relieved by the operation.
106	Femâmeh.	3	Mu'allakat ed Damûr.	Aug. 14, '77.	1 year.	Dilatation & extraction.	1	Oval.	1.5	Urates.	No incontinence from time of operation.
113	Milâdi.	11	Batroun.	Jan. 10, '78.	2½ months.	Dilatation & extraction.	1	Almond.	4	Phosphates.	Calculus broke down in the grasp of the forceps. No incontinence after operation.
137	Mudallaly.	55	Sadad.	July 2, '79.	From childhood.	Dilatation & extraction.	1	Oblong.	13.5	Phosphates.	Had no control over neck of bladder before operation. It gradually returned perfectly after the operation.

III.—CASES OF LITHOTRITY IN THE MALE.

No.	Name.	Age.	Residence.	Date.	Duration.	No. of sessions.	No. of stones	Weight, grams.	Analysis.	Results and remarks.
115	Saïd.	26	Beirût.	Mar. 2, '78	5 years.	1	1	1.5	Phosphates.	No febrile reaction. Aspirator not used.
134	Salim.	26	Damascus.	June 7, '79	5 months.	1	1	2	Urates.	Litholapaxy with Clover's aspirator. Most of the detritus removed by aspiration. One piece as large as a pea became subsequently impacted in the meatus and was removed by Civiale's urethral forceps. N.B.—Same individual as case 133 (urethral stones).
139	Sarufim.	65	Beirût.	Sept 2, '79.	2 years.	1	1	2	Phosphates.	Litholapaxy with Clover's aspirator. Sept. 24th a fragment was discovered and crushed, after which the symptoms disappeared.
147	Sarufim.	66	Beirût.	July 10, '80.	2 months.	2	1	0.50	Phosphates.	During the winter the patient had a cystitis, for which I treated him. During the treatment there were no evidences of stone. Two months since he began to have symptoms of stone. At the time of operation I attempted aspiration, but the bladder would not hold the water pumped in, which flowed out of the urethra by the side of the catheter as fast as introduced. The patient failed to collect the first fragments that passed, and thinks them more than he afterward saved. He left my care quite free from annoying vesical symptoms. The weight given is that of the fragments actually collected.

IV.—STONES PASSED PER URETHRAM IN THE MALE.

No.	Name.	Age.	Residence.	Date.	Duration.	No. of stones	Weight, grams.	Analysis.	Remarks.
107		25	Port Saïd.	Aug. 14, '77.	1 year.	1	0.4	Urates.	Pain continued a year in the region of left ureter, but after passage of stone the pain ceased. No recurrence of stone.
133	Salim.	26	Damascus.	May 31, '79.	30 days.	1	0.66	Phosphate of lime.	A year and a half ago he had pain in the lumbar region and penis, which lasted thirty days and terminated in the passage of a polished flat ovoid stone. See case 134, under lithotrity.
141	Neecash.	18	Beirût.	Sept., 1879.	6 days.	1	0.2	Phosphates.	Patient with rheumatic diathesis, enlarged heart with valvular lesions. Since the passage of the stone he has had no more symptoms in the regions either of the ureters or the bladder.

Notes continued from previous page.

upon itself. It was at first seized at its greater extremity, and in withdrawing it the projection caught at the neck of the bladder. It was afterward reseized and tilted up and so extracted entire.

§§ After complete reaction from the chloroform, hemorrhage set in. It was controlled by packing the wound with sponges saturated with liquor ferri perchloridi. These were removed fourteen hours after application. The febrile reaction was sharp, but not preceded by a chill. There was tenderness in the suprapubic region, and the urine was tinged with blood.

On the fourth day there was great tenesmus of the bladder and some hemorrhage. Small pieces of the sponge tampon passed per perineum. On the evening of this day four or five ounces of blood were lost. The flow was checked by the local native physician by simple pressure on the wound with a sponge. This practitioner considered it to be superficial, not from the neck of the bladder.

On the fifth day no hemorrhage.

On the sixth day, at 3 A.M., slight hemorrhage checked by sponge. A clot at the neck of the bladder caused retention and great pain. At 9 A.M. I drew the urine by a catheter passed through the wound, and then tied a No. 12 soft catheter in the bladder. No further hemorrhage occurred after this date, and the febrile symptoms gradually diminished under the use of quinine. The case was operated on in a somewhat inaccessible village, and I was not able to see the patient at critical moments.

‖ Two years previous to this operation he had had a stone crushed in Egypt, but the symptoms of vesical irritation had never disappeared. The two stones were probably formed about fragments left after the lithotrity. He was unwilling to have lithotrity done again.

The chloroform being given by an inexperienced person, respiration was quite suspended during the operation, but restored by artificial respiration repeated twenty-five times. There was considerable hemorrhage after the reaction from chloroform, but it was arrested by liquor ferri perchloridi. Death occurred on the fourth day with symptoms of uræmia. I may here remark that in an experience of several thousand cases of anæsthesia by *chloroform* I have never had a death, and only two or three times have had to resort to artificial respiration.

V.—Urethral Stones in the Male.

No.	Name.	Age.	Residence.	Date.	Duration.	Operation.	No. of stones	Shape.	Weight, grams.	Analysis.	Results.
120	Beshara el Khol.	5	Beirût.	June 15,'78.	3 years.*	Extraction from meatus.	1	Oval.	0.5	Phosphates.	Recovery.
126	Saad ed Din.	6	Beirût.	Oct. 22, '78.	1 year 6 months.	Extraction from meatus.	3	Oval.	0.5	Uric acid.	Recovery.
148	Sabbagha.	22	Beirût.	July 26, '80.	17 years.	†	5	Various.	32.5	... .	Recovery.

* Three years before a native quack incised the urethra one-half an inch behind the frænum and removed a small calculus, leaving a fistulous opening. The present operation consisted in crushing the stone with a director and prying the fragments out of the meatus, which was slightly nicked to admit of their more ready passage. The patient did not return, and I am, therefore, unable to report the ultimate fate of the fistula.

† The patient was operated on at the age of five years for a stone which he has not preserved. The operation seems to have been a modification of the Italian, consisting in cutting in the line of the raphe on the stone itself, which has been previously hooked forward on two fingers of the left hand introduced into the rectum and made to protrude in the perineum. This native operation is done without a staff. From the time of this first operation he has had perineal fistula and a stone in the scrotum.

The pathological phenomena were as follows: At the bottom of the scrotum, in the median line and pointing to the left side, was a hard tumor, about the size of a hen's egg, which imparted to the touch the sensation of the grating of stones on each other. There was a series of fistulous openings communicating with the sac in which the calculi were lodged. At a point three-fourths of an inch in front of the anus was another fistulous opening, as large as a goose-quill, extending obliquely forward and upward toward the membranous portion of the urethra. From this opening the young man had, from time to time, extracted small cylindrical calculi one-fifth of an inch in diameter and from one-half to an inch in length. One had been passed a few days before the operation.

The patient was placed in the lithotomy position, and the sac of the scrotal calculus laid open and connected with the anal fistula for one-third of its depth from the surface. Three stones were extracted from the scrotal sac, weighing in the aggregate, thirty one grams. Their adjacent surfaces were marked with perfect articulating facets. The posterior occupied the bulb of the urethra, and its posterior surface was in contact by a facet with the cylindrical stone occupying the posterior sinus. The scrotal sac was then dissected out, leaving sufficient mucous membrane to reconstitute the bulbous urethra. The sac was found continuous with an inch of this portion of the urethra. The posterior fistulous tube was then dissected out as far as the membranous portion of the urethra. The divided tissues of the bulb showed a tendency to bleed freely and no disposition to contract. Compressed sponge, moistened with liquor ferri perchloridi, was accurately applied to the bleeding surfaces, and a tampon of sponge with perineal pad and bandage completed the dressings. For two days the patient was unable to pass water, which was accordingly drawn by a catheter introduced through the meatus. After the separation of the sponge tampon he began to pass water by the perineal wounds.

On the twelfth day the last of the sponges were removed from the bulb. They were so adherent to the granulations as to require considerable traction for their removal. A part of the urine has began to flow by the urethra.

On the nineteenth day the wound was nearly healed. At times all the urine flowed through the urethra, at others through the sinus. The patient was directed to press the thighs together during micturition.

On the twenty-sixth day most of the water passed per urethra. Sinus only admits a fine probe.

EXPERIMENTS TO DETERMINE THE RELATIVE MERITS OF WATER AND AIR AS MEDIA OF TRANSMISSION FOR SPHYGMOGRAPHS.

By A. T. KEYT, M.D.,

CINCINNATI, OHIO.

The utility of the graphic method as applied to clinical and physiological investigations is being demonstrated more and more. The success is to be accredited in large part to the employment of the method of simultaneous inscriptions. The sphygmograph and cardiograph, used separately, give permanent records of the arterial and cardiac pulsations, and show some features of form not otherwise distinctly revealed; but these instruments, combined in one so as to trace the heart and an artery at the same time on the same side, afford additional important indications, and such as are unattainable by any other means. Thus, two (or more) properly constructed inscribing instruments arranged in this manner are capable of showing all the palpable movements of the organism in their individual forms and phases, and the relations of these movements to each other. The most valuable of Marey's contributions in this department are the facts he has been able to bring to light by the method of simultaneous inscriptions.

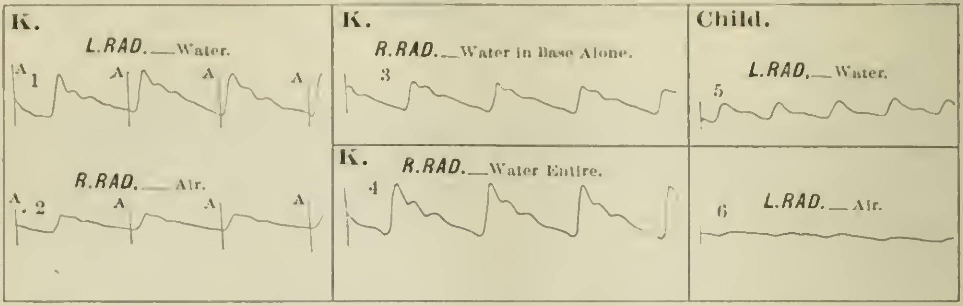
A direct sphygmograph, as Marey's, although tracing correctly the form of the pulse, is not adapted to combination for the purpose named. To carry out the object requires that the movements be transmitted to a convenient distance where they may be recorded on the surface provided. To do this with fidelity and convenience has been the problem to be solved. Accordingly, Marey devised and has employed the tambour system, and utilized the contained air as the medium of transmission. I devised and employ a modified tambour arrangement, and utilize water as the medium of transmission.

The pertinent question has arisen as to which of the two is the better medium. Marey, in his former experiments on animals, failed with water, but achieved brilliant results with air. I, in my experiments on man, have succeeded with water, and found this medium so efficient and convenient that I thought it left nothing to be desired. Marey believes that the inertia of the liquid column tends to deform the movements, while air, by its lightness, obviates this source of deformation. I believe that, in a proper apparatus, the inertia of the liquid column is reduced to an inappreciable minimum, and this medium, by its incompressibility and easy displacement, transmits the movements with unerring fidelity; while air I have mistrusted on account of its easy compressibility. The question, however, can only be settled by the results of experiment.

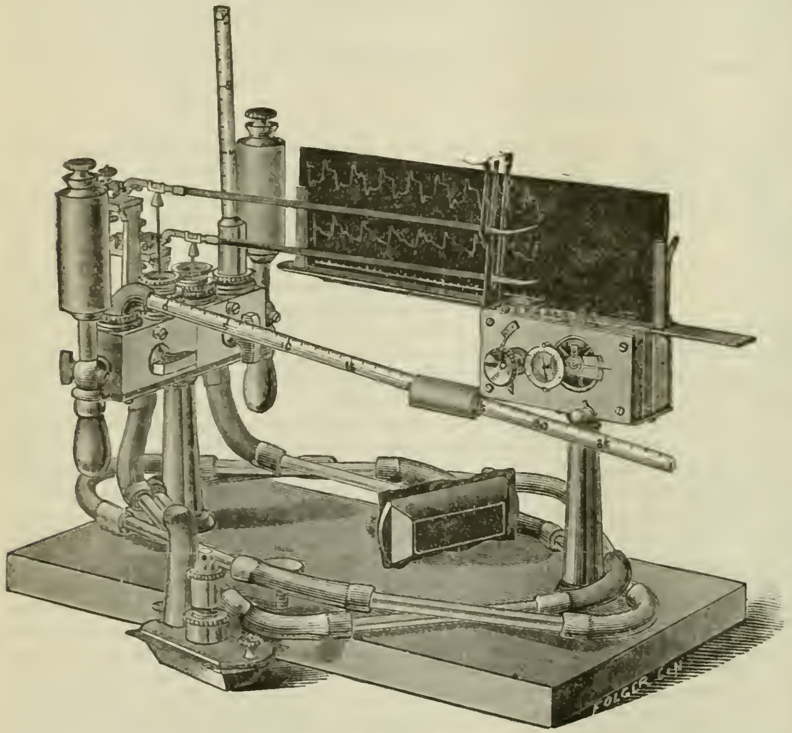
My compound sphygmograph is constructed for water, yet it yields fair results when used with air. Whether these results will compare favorably with those of which Marey's improved polygraph is capable I have not at present the means of knowing; only among traces I have seen that were taken by the *sphygmographe à transmission*, which embodies the same principle, there are none superior to those my instrument is capable of, charged with air instead of water. To aid in the solution of the question I recently instituted the following comparative experiments

My two radial pulses are synchronous, as proven by many observations.

Experiment 1.—With the two instruments of my apparatus prepared and adjusted as usual, I removed the liquid from the one that writes below, and left the other filled. Two assistants then applied them to my radials—the one filled with water to my left, the other filled with air to my right. They were manipulated until the levers displayed their best movements, and then the traces were taken. No. 1 shows the trace of the left radial by water; No. 2 of the right radial by air. This experiment was several times repeated with very similar results. We notice at present the marked contrast in the amplitude and definition of the two traces.



Experiment 2.—The same basal chamber was completely filled with water, leaving the transmission tube and upper chamber containing air. The instrument was then applied to my right radial and the best trace obtained; 3 is the result. This will be noticed as a very beautiful trace, of small yet larger amplitude than 2, and with secondary waves distinctly marked.



COMPOUND SPHYGMOGRAPH.

Experiment 3.—The same instrument completely filled with water and my right radial traced; 4 gives the result—a perfect trace, amplitude nearly twice that of 3 and about three times that of 2.

Experiment 4.—A child two and a half years old was the subject. With instrument adjusted as in the other experiments, 5 was obtained with water and 6 with air, as the best traces the same pulse would yield under the respective media.

These results all go to show that under the same or parallel conditions water produces a trace of much greater amplitude and better definition than air; although aside from difference of amplitude the two traces in general form are quite similar. The contrast proves that in transmission by water the force of the pulse is conserved, while by air it suffers loss; and herein lies the great superiority of water over air as a medium—water thus becoming applicable for tracing the weakest movements, while air in these conditions produces no tangible results. Both Marey and François Franck testify to the difficulty of obtaining traces of feeble movements by the *sphygmographe à transmission.*[*]

In regard to form, these traces[†] by water are as nearly faultless as any that could be produced by the best direct sphygmograph. It would be difficult to notice in them any effect of inertia of the liquid column. And No. 2 by air, so far as its meagreness will permit, shows a correct outline.

Attention is now called to traces 1 and 2, taken simultaneously. It will be observed that the position of the signal lines A, A, with respect to the beginning of the ascents, appears to be the same in both lines. If this be so, the beginnings of the traces are synchronous, and, the pulses being synchronous, their beginnings must have been transmitted by the different media in equal times.

However, it should be remarked that a slight discrepancy may exist and be unnoticed, because of the uncertainty as to the exact position of the basal points in the long turns of the air traces. The result shows at least great promptness in the transmission by air, and whether this be really more rapid than by water will be seen farther on. The relationship shown is different from what I had *a priori* expected. I inferred that the air under the stroke of the pulse would be compressed for a time, before the lever would rise, and thus the start would show delay as compared with that by water. But the fact would seem to be, that the air in order to actuate the instrument first becomes condensed under the requisite pressure, and then behaves as a practically incompressible medium within the forces engaged.

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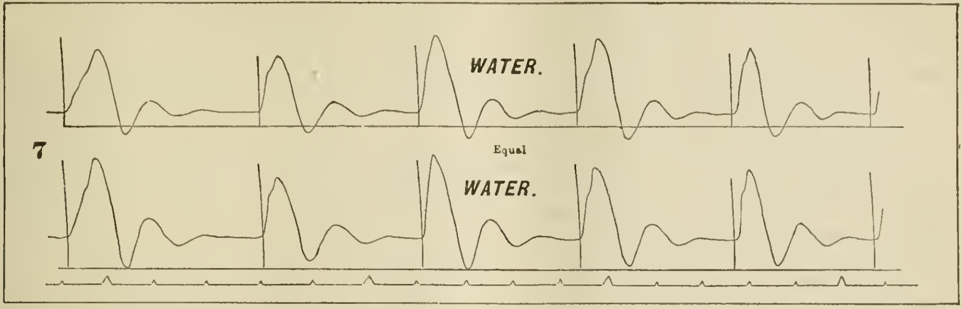
[*] . . . ; malheureusement, le sphygmographe à transmission est moins sensible que l'instrument direct et ne donne de bons tracés que sur les sujets dont le pouls est assez fort."—La méthode graphique, p. 585.

[†] Unhappily the engraver has failed in some instances, notably in the direction of the up-strokes, to follow exactly the lines of the originals.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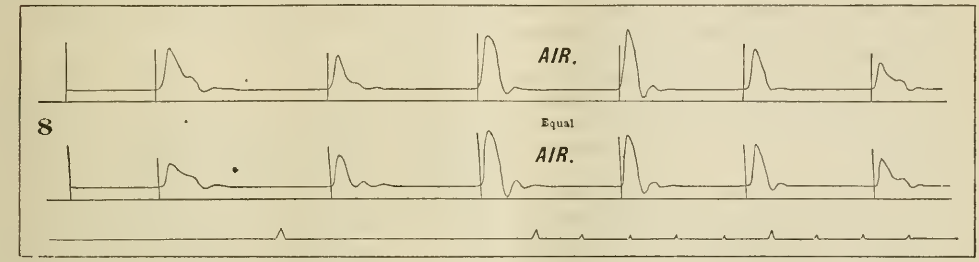
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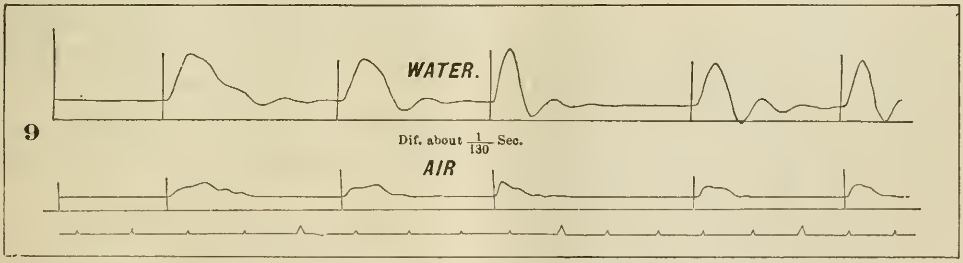
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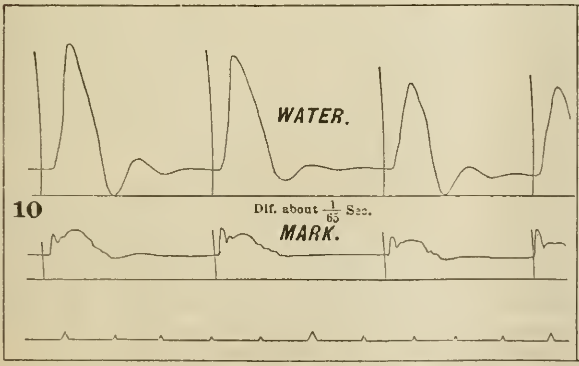
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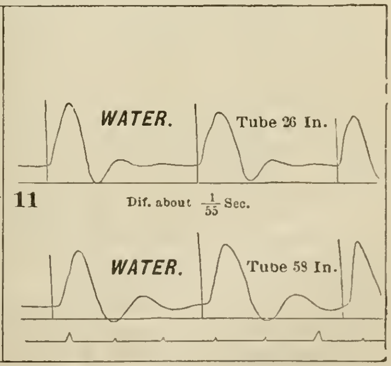
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In order to test more rigidly the fidelity of the time results obtained with the two media as employed in my apparatus, I made the following further experiments:

Experiment 5.—Object: to test the correctness of water to show the time relation of two phenomena. *Details:* Apparatus, except the carriage, prepared and adjusted as I usually employ it in clinical observation. Tubes, twenty-six inches long between membranes, about one-sixth of an inch bore, composed of alternate sections of glass and firm rubber tubing. Membranes respectively at standard tension; levers six inches long, with pin-socket half an inch from axis. The two bases were firmly secured in a block, side by side with membranes looking upward. Two similar corks transfixed by a metal rod were placed one upon each membrane, and a metal bar of sufficient weight was placed, with one end on the rod, the other on a support. A touch of the bar would instantaneously affect the basal membranes, and the motion in due time would be communicated to the levers, and written by them on the advancing slide. If the apparatus were true, the records of a motion thus communicated to the membranes would be synchronous. To show more plainly any succession, a carriage was substituted whose speed was much greater than that ordinarily used. The usual chronograph, writing seconds and fifths was employed. When all was ready, while the chronograph and slide were in motion, I made a series of quick taps with my finger on the bar, and thus obtained two lines of traces. Immediately the slide was repassed, and halted at the points where the levers and basal points of the traces were in, or nearly in, conjunction, and then the levers were made to describe their curves by pressing on the membranes. The relations of these curves, termed signal lines, to the basal points, respectively indicates the synchronism or succession of the records. The result of the experiment is shown in No. 7. The basal points and signal lines, above and below, are precisely in the same relation, which proves that the two instruments transmitted and recorded the same movement in exactly equal times.

Experiment 6.—Object: to test the correctness of air to show the time relation of two phenomena. *Details:* The same as in last experiment, except that the instruments were charged with air instead of water. Result shown in No. 8. Here, too, the traces are uniformly synchronous.

Experiment 7.—Object: to test the difference in time of transmission by water and air. *Details:* The same as in Experiment 5, except that the upper instrument was charged with water and the lower with air. Result shown in No. 9. The eye can readily detect a difference in favor of an earlier elevation of the traces by air. The difference is small, and measures, I believe, about $\frac{1}{130}$ of a second. The proof is positive that in my instrument a movement is more rapidly transmitted by air than by water.

Experiment 8.—Object: to determine the time consumed in the transmission of a movement by water through my instrument as usually employed. *Details:* A crank moving vertically on a central axle was so placed in relation to the instrument that one arm bore upon the basal membrane of the upper instrument, and the other arm supported directly the lever of the lower instrument. The same bar was placed with its end resting on the arm that pressed the membrane. Tapping the bar would raise the lower lever instantaneously, and the upper after the movement had been transmitted through the channel of the instrument. Thus the experiment was made, and the result is shown in No. 10. The delay seems to measure about $\frac{1}{65}$ of a second.

Experiment 9.—Object: to determine the effect of tubes of different lengths on transmission by water through my instrument. Details: The same as in Experiment 5, except that the lower instrument was furnished with a tube fifty-eight inches long, while the tube of the upper remained twenty-six inches. Result shown in No. 11. Delay of the long tube over the other is measured at about $\frac{1}{55}$ of a second.

These experiments were all several times repeated, with great uniformity of the time results.

CONCLUSIONS.

1. Both water and air are reliable as media of transmission for movements within their respective ranges of availability.

2. Water transmits movements with much greater power than air, which gives it a wider range of application, embracing feeble movements that air is incapable of inscribing.

3. With a proper apparatus, properly adjusted, the form of a movement as transmitted by water is entirely correct; the form, also, as transmitted by air, may be correct.

4. The time relation of two movements may be uniformly correctly shown by either water or air—provided respecting the latter the movements be sufficiently strong.

5. The time lost in the transmission of a movement is greater by water than by air, and by either is in proportion to the length of the tube.

6. In order to show with precision the synchronism or succession of two movements, both instruments must be charged wholly with water or wholly with air, and both transmission tubes must be of the same length.

In practical effect the foregoing experiments demonstrate the fidelity and availability of my method to show the form and synchronism or succession of movements, great and small. They go, also, to show the fidelity of Marey's method for the purposes named, within the range of its availability. Hence, the results which have been achieved by the careful application of either method, may be accepted as rigidly true. If improvement in Marey's apparatus shall be found to adequately enhance its force of transmission, then the choice between his method by air and mine by water will be governed by less weighty considerations than difference in energy of transmission.

REPORT OF CASES OF PHTHISIS

Treated at Aiken, S. C., During the Season 1879–80.

By W. H. GEDDINGS, M.D.,

AIKEN, S. C.

(Continued from Medical Record, November 15, 1879, p. 469.)

My report of cases of phthisis treated at Aiken in the season of 1878 and 1879, and published in the Medical Record of November 15, 1879, closed with the following summary: Arrested, 4; improved, 13; unchanged, 5; grew worse, 8; died, 1; total, 31. Of these eight returned to Aiken or reported at Bethlehem, N. H., and thus afforded me an opportunity of continuing their case histories.

Case XVII.—(Dr. R. P. Lincoln). This patient passed the greater portion of the summer at Bethlehem (White Mts.), improving at first and then losing ground in consequence of an ill-advised trip to New York, during which she was exposed to great fatigue and suffered much from the heat. After this she again improved, and remained tolerably well until October, when she started for Aiken.

November 6th.—Pulse, 80; temperature, 99⅓°. Looks very well and has a healthy color. There is evident depression of the upper portion of the thorax on the left side. The percussion sound is much more resonant over the upper portion of the chest, but the area of dulness to the outer side of the heart is now quite distinctly defined, extending two inches upward into the axilla. Everywhere else there is normal resonance. Patient completed her fourth season in Aiken without relapse or any untoward accident, and is now doing well.

Case V.—(Dr. Morrill Wyman). I had the pleasure of meeting this patient at Bethlehem. He had steadily improved, and for some months past had been entirely free from cough. Being rather nervous, he refused to submit to an examination, but his general appearance is that of a person in perfect health. His ruddy color, his increased weight, the cessation of his cough, and the absence of all subjective symptoms warrant me in classing him among the cases in which arrest has taken place.

Case XXIX.—(Dr. Calvin Ellis). It will be remembered that this patient, after great improvement, was much prostrated by a severe attack of diarrhœa, during which he lost even more than he had gained, and for that reason he was classed among the cases that *grew worse.* Fortunately, the diarrhœa exercised no unfavorable effect on the progress of the disease, and during his residence at his home in Vermont he gradually regained all he had lost during the attack, improving slowly during the summer and more rapidly during the fall months. Arrived in Aiken November 6th, and has been improving ever since.

November 12th.—Pulse, 80; temperature, 99°; weight, 137½ lbs. Coughs three or four times in twenty-four hours, raising each time a small quantity of muco-purulent matter. Dull on the right side from above clavicle to the upper border of third rib, and between the scapula and vertebral column, the respiration being bronchial in character.

December 10th.—Has continued to improve. Pulse and temperature are normal, and his weight has increased to 140½ lbs., a gain of three pounds since October 12th. Cough has ceased almost entirely, a little hack after breakfast being all that is left of it.

January 10, 1880.—Improvement has continued without interruption; has not missed a meal since his arrival in Aiken; has attained his full average weight, and presents the appearance of a person in perfect health.

Right side.—The dulness in front extends now only to the lower border of the first rib; posteriorly it remains unchanged. Respiration slightly bronchial.

April 24th.—Notwithstanding several weeks' confinement to the house with an old gunshot wound, the patient has continued to improve. The little hack in the morning noted at the last examination has disappeared, and for six weeks there has been no cough of any description. Pulse and temperature remain normal. There has been no further change in the physical symptoms except diminution of the area of dulness behind, which is now confined to the space above the spine of the scapula, and between that portion of the bone and the column.

Remarks.—The above is the most remarkable case of arrest of phthisis that has ever come under my observation. At one time, in the spring of 1879, he was so pale and emaciated, and the temperature so persistently high, that a fatal termination appeared to be inevitable. I heard from him in July, 1880, and up to that time no relapse had taken place. There being no business opportunities in Aiken, and not deeming it prudent to return to his old home, he went to Colorado. The climate there not coming up to his expectations, he has concluded to return to Aiken.

Case XIX.—(Dr. Chapman, of New Haven). Improved a little after his return home. He then went to Colorado, and passed the summer there with some advantage to his general health. On the approach of cold weather, not feeling as well as usual, he returned to Aiken, remaining there several months. An examination made in January showed that there had been no change in the extent of the infiltration, and that his general health was precisely the same as at the time of his arrival in Aiken one year ago. When seen again he had improved, and had added three pounds to his weight.*

Case II.—(Dr. Busey). Passed his sixth season at Aiken enjoying his usual health, and in the same condition as the close of the last season.

Case XIV.—(Dr. Burton, of Adams, Mass.). The wonderful improvement which took place in this apparently hopeless case caused me to look forward with much interest to her return. On leaving Aiken last spring she was advised to return early in October. Unfortunately, this advice was not followed. She continued to do well throughout the summer, but about the second week in October an abscess formed in the diseased lung which, making its way into a bronchus, discharged very profusely. This reduced her considerably and caused her to lose all that she had gained in weight during the previous winter. She was sent over to some place in Connecticut where she improved a little, but was unable to undertake the journey south until January.

January 13th.—Pulse, 86; temperature, 99½°. Weight, ninety-two and a half pounds, which is within two and a half pounds of her weight when she arrived in Aiken one year ago. Expectorates one-half to one ounce. Tongue coated and yellow; appetite poor; has not been able to take oil for some time past.

Right side.—Diminished resonance under clavicle down to second rib, with complete dulness everywhere else. The dulness does not disappear with change of position. Respiration bronchial, with prolonged experium, moist râles everywhere audible.

February 13th.—Notwithstanding the unpromising condition of the patient when she first arrived, there has been a steady improvement, and she has gained five and a half pounds. Takes long walks without being fatigued.

February 28th.—Catamenia, which had disappeared during the fall, have returned. Coughs but very little, and has scarcely any expectoration.

March 16th.—Since the last date her appetite and digestion have failed, and she has gradually lost six pounds.

April 19th.—Patient has to some extent recovered the ground lost during the last month; her strength is improved, and her color is remarkably good. Continues to cough but little, and does not expectorate more than a teaspoonful in a week. Has regained two or three pounds of the flesh lost during the late attack. Goes north.

Result.—Marked improvement, rapid increase in weight and strength, with lessening of cough and expectoration.

Remarks.—The renewed improvement in this case (one with total filling of the lung with cheesy infiltration), especially after the relapse in the fall, makes this case one of the most interesting of the whole series.

Case X.—(Dr. George C. Webber, of Millbury, Mass.). This patient, who at the time of her arrival had an infiltration of the apices of both lungs, improved steadily, the area of dulness disappearing entirely on one side, and being greatly reduced on the other. With the exception of one or two "colds" she did well throughout the summer.

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* This patient died suddenly after his return home. No autopsy was made, but it was supposed that his death was the result of cerebral hemorrhage.

February 24th.—Pulse, 104 (under nervous excitement); temperature, 98½°. Her general appearance is that of a person in perfect health. She lost a little in weight during the summer, but has gained one and a half pounds since her return to Aiken, and now weighs 112 lbs. The only physical signs of disease are diminished resonance under the left clavicle, with bronchial respiration behind.

April 19th.—Has improved steadily, her flesh is firm, her color ruddy, and her weight has increased from 110½ to 116 lbs. She walks long distances without experiencing the slightest fatigue. She coughs only in the morning, and then very little. With the exception of slightly diminished resonance above the clavicle, physical examination reveals no evidence of the old infiltration.

Remarks.—Were it not for the occasional cough in the morning this would also be regarded as a case of arrest.

Case XXIII.—(Dr. Van Bibber, Baltimore). This patient, whose improvement was so marked during the past season, had no relapse during the summer and fall, but lost eight or nine pounds.

April 6th.—His appearance is that of a perfectly healthy man. He coughs occasionally throughout the day and expectorates about a half an ounce, mostly mucus.

Patient has been two months in Aiken and during that time has gained ten pounds. Pulse and temperature are normal. The only physical symptom of the old disease is diminished resonance under the left clavicle. This patient may be regarded as nearly well.

It will be seen in this supplementary report that the disease was arrested in six out of the thirty-one cases, and that in two more, X. and XXIII., there is every prospect of speedy recovery.

Thus corrected, the summary for the season 1878–'79 would read: Arrested, 6; improved, 13; unchanged, 4; grew worse, 7; died, 1: Total, 31.

The report for the past season, 1879 and 1880, includes thirty-eight cases, of which I have been able to preserve a tolerably complete record. Including as it does only those that were under observation for at least six weeks, it contains the worst cases; the lighter ones—and such are always in the majority at a health resort—were naturally less regular in their attendance, and are consequently excluded from this report. The cases are not selected, but taken as they appear in my daily record of practice. It contains no case in which there were not positive signs of chronic infiltration of the lungs. Not deeming it expedient to publish the names of private patients, I have, in nearly every instance, identified the case by giving the name of the medical attendant or that of the consultant.

Case XXXII.—A young man, twenty-four years old, from Burlington, N. J., a patient of Dr. Grant. Does not know whether there is any hereditary predisposition to consumption in his family. He began to cough in July, 1879, and shortly afterward had a slight hemorrhage, which, in its turn, was succeeded by night-sweats and loss of flesh. He has lost in all twenty pounds, his present weight being 120 lbs.

October 20th.—Color pale; pulse, 112; temperature, 100.2°. Expectoration muco-purulent in character and small in quantity.

Left side.—There is dulness in front, from the clavicle to the heart, and behind, from the upper border of the scapula to its lower angle. The respiration over the front is bronchial in character, with prolonged experium; posteriorly the respiratory murmur is indistinct.

Right side normal, except that the respiration over the apex is harsh, with prolonged experium.

November 3d.—Pulse, 108; temperature, 100.2°. Looks much better, is stronger, has gained five pounds in two weeks, and the sweats have ceased entirely.

November 20th.—Pulse, 100; temperature, 99.5°. Weighs 130 lbs., a gain of ten pounds during the month.

December 8th.—Pulse, 98; temperature, 99°. Has continued to improve, looks well, and coughs but little. Weighs 132½ lbs., a gain of twelve and a half pounds.

January 10th.—Pulse, 96; temperature, 90°. Looks fresh and ruddy, and has the appearance of a person in good health. His present weight is 136 lbs., a gain of sixteen pounds since his arrival in Aiken. Coughs only once in three days, on which occasions he expectorates only a little pellet of mucus.

March 8th.—Color rosy; never coughs except after some unusual exertion, such as a fit of laughter. The area of dulness in front has become more resonant, especially below the clavicle and near the sternum. The dulness now does not extend lower than the third rib. Behind, the dulness reaches from the spine of the scapula to its lower third, the region above the spine and the lower third having become resonant. The respiration is no longer distinctly bronchial, but rather undecided in its character.

Results.—A gain of sixteen pounds, disappearance of all febrile symptoms, entire cessation of sweats, almost complete cessation of cough and expectoration, and great improvement in general health.

Case XXXIII.—Male, about twenty-two years of age, patient of Dr. Shurly, of Detroit. Family history not noted. Had severe cough in August, 1878, which was followed by fever, intermitting in type and attended with profuse sweats. Has lost twenty-eight pounds.

October 22d.—He looks very ill, is pale and cachectic in appearance, quite feeble and greatly emaciated, his present weight being only 112 lbs. Pulse, 108; temperature, 100.2° (at 11 A.M.). Left front dull from clavicle to fourth rib, with tympanitic resonance and *bruit de pot fêlé* under second and third ribs. No dulness elsewhere. Auscultation on left side reveals bronchial breathing, with prolonged experium and loud amphoric respiration, corresponding with the area of tympanitic resonance. On the right side the respiration is bronchial, with prolonged respiratory murmur.

October 31st.—Temperature has risen steadily from 100.2°, on 22d, to 102.7° to-day. Is much weaker.

November 10th.—Continues to grow weaker every day. Temperature, 103°.

November 24th.—Has had less fever since the 16th, but there has been no improvement in any other respect. Feeling much discouraged, he insists upon going to Florida.*

Results.—Rapid decline, with steady rise of temperature and increased emaciation.

Remarks.—This was evidently a case of subacute tuberculosis, with extensive breaking down of lung-tissue. His condition at his time of arrival in Aiken was such as to preclude all possibility of even temporary improvement.

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* A letter from his physician in Jacksonville announced his death at that place two weeks after his arrival there.

Case XXXIV.—A married lady from Brooklyn, thirty-six years of age, patient of Dr. Barker, of Morristown, N. J. Disease began with cough in January, 1879; had a series of moderate hemorrhages, night-sweats, etc.

October 27th.—Looks very pale and is much emaciated, her present weight being only ninety pounds. Expectorates two ounces of muco-purulent matter. Pulse, 84; temperature, 100° at 11 A.M., but is said to be much higher in the evening.

Right side.—Dulness from clavicle to second rib in front, and half down the scapula behind. The respiration both front and back is bronchial, with numerous moist râles. Conducted heart-sounds distinctly audible. The general appearance of the patient is extremely unfavorable. In addition to the pulmonary disease there is a uterine complication which, by interfering with locomotion, prevents her from taking exercise in the open air.

The day after the above examination the patient was seized with an obstinate attack of diarrhœa, ten days elapsing before it yielded to treatment. During the month of December there was considerable fever, the temperature at times rising to 103°. Emaciation progressed slowly but steadily during this and the following month, the patient being very ill most of the time. During January the weakness had increased to such an extent as to confine her to bed, and notwithstanding the greatest care a troublesome bed-sore developed over the sacrum. The emaciation continued to progress through the month of February, the patient becoming so reduced that she presented the appearance of a living skeleton. Another sore developed on her left shoulder, and to add to her sufferings the mucous membrane of her mouth became covered with painful aphthous ulcers. She was relieved by death on the 25th of February, having steadily declined from the time she first came under observation.

Remarks.—This case was so manifestly hopeless from the very first that no notes were taken of the condition of the lungs after the first examination.

Case XXXV.—From Cohasset, Mass.; male, fifty-six years (Dr. Spalding). Commenced to cough in the spring of 1879, lost five to eight pounds, and has had night-sweats.

November 28th.—Pulse, 88; temperature, 99.2°. Color pale. Expectorates one ounce, all of which floats. Present weight, with overcoat, 140 lbs.

Right side.—Dull from clavicle to third rib in front, and to one and a half inches below the spine of the scapula behind. Auscultation: bronchial respiration over the upper portion of the lung, both front and back.

February 19th.—There has been a slow but steady improvement. He coughs much less, and the expectoration is reduced to one-third of what it was at the time of his arrival. There has been little or no fever, the pulse ranging from 72 to 84. His color is better, and there has been some increase in weight. Physical examination shows marked improvement, the lower border of the area of dulness in front having receded to the second rib, while behind it cannot be detected below the spine of the scapula.

Result.—General improvement, with lessening of the area of dulness and slight increase in weight.

Case XXXVI.—A gentleman from Canada (Dr. Boswell, of Quebec, and Dr. Campbell, of Montreal), fifty-six years. Took cold in September, 1879. Suffered much with attacks of congestion of the lungs, and had several profuse hemorrhages, followed by loss of flesh and night-sweats.

November 25th.—Pulse, 84; temperature, $99\frac{1}{2}$°. Patient is very thin; collar-bones very prominent, with sinking-in of the supra-clavicular regions. Breathes very rapidly, and coughs incessantly, expectorating a large quantity of muco-purulent matter, a considerable proportion of which sinks to the bottom of the vessel. Sweats profusely. Severe pleuritic pain in the left side. Appetite poor and digestion much impaired.

Left side.—Dulness extends from the clavicle to the heart, with diminished resonance lower down. Posteriorly there is marked dulness under the supraspinous fossa.

December 8th.—Pulse, 84; temperature. $100\frac{1}{3}$°. Flushing of face, respiration very rapid, complains of pain at the lower border of the infiltration. Dulness has extended downward, and now occupies the upper half of the chest.

December 28th.—Patient has grown thinner, the dyspnœa has increased; is weaker, and suffers with frequent attacks of indigestion. Night-sweats continue to recur.

January 10th.—An abscess has formed on the outer side of the anus, causing great suffering. An opening afforded prompt relief.

It is useless to follow the details of this case. The already enfeebled digestion grew weaker, and it was only with the greatest difficulty that he could be induced to take even small quantities of food. The emaciation, of course, progressed steadily, and with it the weakness of the patient continued to increase. As soon as the weather became sufficiently warm to admit of his removal, he was taken by slow stages to his home, where he died a short time after his arrival.

Result.—Extension of the disease.

Remarks.—In this case a fatal termination was inevitable. The extent of the disease, the dyspnœa, but more especially the condition of the digestive organs, leaving no room to hope for a more favorable result.

Case XXXVII.—A young lady, twenty-four years, patient of Dr. Pepper, of Philadelphia. The disease dates from an attack of acute pneumonia in January, 1879. Cough has persisted ever since, with a loss of ten pounds in weight.

November 28th.—Pulse, 124; temperature, $101\frac{3}{5}$°. Color pale. Has dyspepsia, associated with great nervousness, and is subject to severe fits of nervous depression. Has but little appetite, and is full of unreasonable fancies in regard to the character of her food. Has an almost invincible repugnance to anything in the shape of medicine. She is very weak, and cannot walk from her room to the adjoining veranda without assistance.

Right side.—The thorax on that side does not expand during inspiration. There is dulness over the whole front, from above the clavicle to the liver, in the axillary line from the arm-pit half-way down toward the liver, and behind from above to two inches below the spine of the scapula. Auscultation: bronchial breathing, with distinctly prolonged experium over the upper portion of the chest, in front, with crepitation below. Behind, the breathing is bronchial, with prolonged expiratory murmur, and in one place cavernous respiration. Exquisite bronchophony. Nothing abnormal on the other side.

December 21st.—Has gradually grown worse. Cough very persistent, and at times almost incessant. Is troubled with pharyngitis, which is very painful, and interferes with deglutition. Is evidently much weaker, and is losing flesh daily. Cavernous respiration is now also audible in front.

December 26th.—Pulse, 126. Wanders in her talk, and is rapidly failing.

December 31st.—Pulse, 125. Appears to have rallied a little, but is still delirious.

January 15th.—But little change took place in the condition of the patient until a few days ago, when she refused to take nourishment. Since then she has grown every day weaker, the delirium continuing all the while. Death at 4 P.M.

Result.—Steady destruction of lung tissue, with death seven months after the first attack.

Remarks.—The great extent of the disease, involving nearly the whole of one lung, its rapid and uninterrupted course, the inability of the patient to take food and remedies, and her peculiar nervous disposition, caused me to express an unfavorable prognosis when I first took charge of the case. It was acknowledged that she was brought to Aiken as a *dernier ressort*.

CASE XXXVIII.—A young man of twenty-four years, patient of Dr. Thomas Reiley, of Adams, Mass. Disease began in May, 1878, with cough and pleuritic pain. This was followed by fever, night-sweats, and loss of flesh. Family history not noted.

November 29th.—Pulse, 92; temperature, 100.5°. Pale, cachectic appearance. Weight, 128 pounds. Suffers with profuse sweats.

Right side.—There is dulness in the supra-clavicular region and under the clavicle, also in the axillary region and under the supra-spinous fossa. There is, besides this, a patch of dulness to the outer side of the scapula. Auscultation reveals bronchial breathing over the apex in front, under scapula, and to the outer side of that bone.

December 28th.—Pulse, 86; temperature, 99½°. Great improvement in color. Cough and expectoration much lessened. Sweats have ceased, and his weight is 135 pounds, a gain of seven and a half pounds.

March 7th.—Has had an occasional rise in temperature, but has done well in other respects. Pulse, 92; temperature, 100.4°. The dulness has disappeared, except under the clavicle and supra-spinous fossa. Respiration feeble and indistinct. Weighs 138½ lbs., a gain of ten and a half pounds.

March 16th.—Pulse, 84; temperature, 99°. Has had a severe attack of gastric catarrh, and has also suffered with headache, formication over the whole of the left side, burning of the palms of the hands and of the soles of the feet, together with other obscure nervous symptoms. He has recovered from these attacks, but has lost five pounds.

April 12th.—Pulse, 80; temperature, 99.3°. Has entirely recovered from his late sickness, looks quite well, and is able to walk ten miles without experiencing fatigue. Has regained several pounds of what he lost in weight during the late attack, and now weighs about 136 lbs. The dulness has disappeared everywhere, except over the supra-spinous fossa, and between that portion of the scapula and the column. The bronchial breathing has given place to normal respiration.

Result.—Diminished cough and expectoration, cessation of sweats, a gain of eight pounds in weight, disappearance of all physical signs of disease, except at the apex, and great improvement in general health.

CASE XXXIX.—A young lady from Elizabeth, N. J., patient of a homœopathic practitioner of that place, twenty years of age. Her present sickness dates from an attack of bronchial catarrh in the spring of 1877. Has had several hemorrhages, and has lost fifteen pounds. Has had attacks of fever, intermittent in type, supposed to be malarial, but which were, in all probability, hectic. Suppression of catamenia for several months.

December 1st.—Pulse, 112; temperature, 105.5°. Pale, with bright red spots on the cheeks, respiration hurried, her general appearance being that of a very sick person. Expectoration copious. Present weight, 114½ lbs. Examination made some time later showed an extensive infiltration occupying nearly the whole of the upper half of the left lung.

January 21st.—Pulse, 96; temperature, 100.3°. The fever continued to recur until about two weeks ago, since which time there has been slight improvement in her symptoms, and a gain of two pounds.

February 12th.—The improvement noted at the last visit proved to be of short duration, and she is now evidently much worse. The patient, thinking that a change would prove beneficial, removed to Georgia, and was lost sight of.

Result.—Slight improvement, with a gain of two pounds; subsequent relapse and rapid decline.

Remarks.—This case was from the first a hopeless one.

CASE XL.—Male, eighteen years, St. Louis; Dr. P. G. Robinson. Parents both alive; no hereditary predisposition. After confinement and overstudy at school, patient began to cough, had several hemorrhages, and lost ten pounds in weight.

December 6th.—Pulse, 96; temperature, 100.2°. Present weight, 165 lbs. Expectorates about two ounces, all of which floats. Can lie on either side with comfort. Has night-sweats.

Left side.—Dull in front from clavicle to third rib, that portion of the chest-wall being depressed and expanding but little during inspiration. Behind there is a small area of dulness under the supra-spinous fossa. Prolonged expiratory murmur and conducted heart-sounds. On the right side no dulness, but harsh inspiratory murmur with prolonged experium.

December 31st.—Pulse, 92; temperature, 99°. With the exception of a slight attack of fever on the 19th there has been steady and uninterrupted improvement. He looks much better, coughs less, and expectorates only three-quarters of an ounce instead of two ounces. Sweats have ceased entirely, and he has regained two pounds.

January 18th.—Continued improvement; weighs 168 lbs., a gain of three pounds.

February 6th.—Pulse, 104; temperature, 100. Took cold on 28th, and has had fever and pleuritic pain ever since. Has lost four pounds since January 18th.

March 16th.—Fever has persisted, and patient has continued to grow worse ever since the exacerbation in February. Left Aiken for North Carolina.

Result.—Marked improvement followed by relapse.

CASE XLI.—A young girl of sixteen years, a patient of Drs. Powell and Donaldson, of Baltimore. Has had cough and fever since last June. Has lost twenty-five pounds. Family history not noted.

December 16th.—Patient looks pale, but, notwithstanding her great loss of weight, does not present the appearance of an emaciated person. Pulse, 104; temperature, 101½°.

Right side.—Dull from clavicle to second rib in front, with diminished resonance over the upper portion of the lung behind. Respiration undecided over front and back, with prolonged expiratory murmur.

February 6th.—Improvement has been retarded by a variety of intercurrent troubles, such as dyspepsia, sick headache, and diarrhœa, but in spite of all these drawbacks she has made some progress. Pulse, 104; temperature, 99.5°. Her color is more healthy. The area of dulness is diminished, and is now confined to the clavicular region.

March 1st.—Much improved, her weight having increased from 105 to 109½ lbs.

May 2d.—Pulse, 96; temperature, 100½°. The dulness in front remains confined to the clavicular region, but behind it cannot be detected below the spine of the scapula.

Result.—Improvement in general health, diminution in the extent of the area of dulness, and a gain of four and a half pounds.

Remarks.—There was in this case no very striking improvement, but when the age of the patient is taken into consideration, together with the constantly recurring attacks of gastric catarrh, the result is far better than could reasonably have been expected.

Case XLII.—A married lady, thirty-three years; patient of Dr. S. Forman, of Jersey City; hereditary tendency to pulmonary disease, an aunt on the mother's side having died of consumption. In the fall of 1877, after having been much prostrated by the fatigue and anxiety occasioned by the illness of one of her children, she began to cough, but did not lose much flesh until a year later, when she was attacked with chronic diarrhœa which reduced her considerably.

December 31st.—Pulse, 96; temperature, 99°. Patient is very pale, does not know her weight, but is evidently much emaciated. Tongue coated, appetite poor, suffers with dyspepsia, and has frequent attacks of diarrhœa. Has uterine disease, with profuse leucorrhœa. Physical examination of the chest reveals extensive disease of the upper portion of the right lung. On the left side no dulness, but occasional moist râles.

February 9th.—Patient's condition remained unchanged until about the 4th of February, from which time there has been a marked improvement evidenced by increased strength, some gain in weight, and less cough.

February 23d.—Has been hoarse for several days, and has had attacks of fever. Laryngoscopic examination reveals ulceration of the right vocal cord. Is much worse.

March 21st.—Patient having grown weaker and more emaciated was advised to return home.

Result.—Slight improvement at first, subsequent relapse, and extension of disease to the larynx.

Case XLIII.—H. B——, colored female, about fifty years of age. This patient consulted me in 1870 on account of persistent cough and loss of flesh, accompanied with slight fever. Physical examination revealed consolidation of the upper third of the right lung. She gradually regained flesh and strength, the cough disappeared, and with it the other symptoms of pulmonary disease. She has remained well ever since, and has been able to resume her usual work.

December 31st.—Ten years have elapsed since her first examination; there has been no return of cough or of any other symptoms of lung disease; the pulse is somewhat accelerated (92), but there is no corresponding rise of temperature. The only trace of the disease present is an area of dulness on the right side, extending from above the clavicle to the upper border of the second rib. She has had no threat of a return of the old disease, and although well advanced in years is able to do a full day's work as a washerwoman.

Result.—The absence of any symptoms of disease during the past eight or nine years justify the conclusion that the phthisical process has been completely and permanently cured.

Case XLIV.—Male, twenty-five years; from Malden, Mass.; patient of Dr. Bemiss, of Medford, Mass. Heredity on the maternal side, and two brothers have died of phthisis. The disease began with a slight attack of hæmoptysis in May, 1878. This was followed with loss of flesh and night-sweats. Had another hemorrhage in April, 1879, much more profuse than the first, and then began to cough. Went to Minnesota, where he for a time ceased to cough. Over-exerted himself, brought on profuse hemorrhages and a return of his cough. The hemorrhages continuing to recur, he started for Aiken.

January 1, 1880.—Pulse, 100; temperature, 100°; weighs 126 lbs.; color good.

Right side.—Dull from the clavicle to the second rib, with diminished resonance under the third. Respiration bronchial, with jerking expiration. Behind, the dulness extends over the upper two-thirds of the scapula. There is no dulness on the left side, but the respiration is very harsh. Moist râles over both lungs. Expectorates one-half ounce, some of which sinks. Can now lie on both sides, which he was unable to do during the summer. Prognosis favorable. Patient improved steadily, the temperature sank to 99.5°, and he gained two pounds in weight; the cough became much less troublesome, and the expectoration ceased altogether. During the month of March an abscess formed near the anus, and developed into an exceedingly troublesome and very painful fistula. This prevented any further increase in weight, but seemed to benefit the local symptoms in the lung, the cough ceasing entirely after the opening of the abscess. At the time of his departure he was suffering too much to submit to an examination, but I afterward met him at Bethlehem, and found him quite well. There had been no return of the cough, and his general appearance was that of a healthy man. Physical examination showed a reduction in the size of the infiltration, the dulness extending in front from below the clavicle to the second rib, while, behind, the only evidence of disease is diminished resonance between the upper portion of the scapula and the vertebral column. The fistula had been operated upon, and was gradually healing.

Result.—Arrest of the phthisical process, increase in weight, and diminution of the area of dulness.

Remarks.—In order that the good result in this case may not be credited to the fistula, attention is called to the fact that a favorable prognosis was expressed at the first examination, and long before its formation.

Case XLV.—A clergyman from Morristown, Ohio; age not stated, probably about thirty-five years; Dr. Trimming. There is hereditary predisposition on both sides, several maternal aunts and one uncle on the father's side having died of consumption, as did also the paternal grandfather. Six years ago he began to experience uneasy sensations in the left lung. A year later he had a succession of hemorrhages, but recovered from them without cough. In the fall of 1877, after having been much debilitated by the summer heat, he became hoarse, and began to cough. During the following spring (1878) the cough disappeared, and he gained four pounds. This improvement lasted until July, when fever set in, with the return of cough and rapid loss of flesh (twenty pounds). Has improved since his arrival in Aiken, having gained six pounds.

January 23d.—Pulse, 96; temperature, 101°; weight, 126 lbs.

Left side.—Some depression, and imperfect expansion. Dull in front from the clavicle to the cardiac region. In the axillary line the dulness extends half way down. On the back the area of dulness occupies nearly the whole of the upper portion of the chest, extending downward to within one inch of the angle of the scapula, and even below that point the percussion sound is less resonant. Respiration in front feeble and indistinct, except below the outer third of the clavicle, where it is distinctly cavernous. Behind, the breathing is bronchial, and at one point cavernous.

February 23d.—Pulse, 88; temperature, 100.5°. Looks well, coughs less, and has gained three and a half pounds during the month, making a total of nine and a half pounds since his arrival in Aiken. No change in physical signs, except a small spot under the right clavicle, which was probably overlooked at the previous examination.

April 6th.—Pulse, 88; temperature, 103.3°. Patient has lost two and a half pounds, but still weighs more than when he arrived.

Right side.—The disease has extended, as evidenced by dulness extending to the upper border of second rib.

Left side.—Extension of the disease, the area of dulness behind now reaching as low as the angle of the scapula.

Result.—Considerable gain in weight, manifest improvement for about six weeks, and then extension of the disease in both lungs.

Remarks.—The marked improvement in this very unpromising case, during the first six weeks, is worthy of note, and there can be but little doubt that his residence in Aiken not only added to his comfort, but that it also prolonged his life.

Case XLVI.—A gentleman from Croton Landing, New York, forty-two years of age, who has been under the care of a homœopathic physician. Hereditary predisposition on the mother's side. Much exhausted with the cares of business, he was taken in November, 1877, with influenza, at that time endemic in his neighborhood. Scarcely had he recovered from this when he went through an attack of pertussis. These diseases left him with a cough from which he has never recovered. He has had vesperal fever, night-sweats, and loss of flesh.

January 28th.—Pulse, 92; temperature, 99° at 12 M.; weight, 141 lbs.; color bad; expectorates one-half ounce of muco-purulent matter, all of which floats. On the right side there is dulness above and under the clavicle, with diminished resonance as low as the second rib. Over the back diminished resonance to within an inch of the angle of the scapula. Respiration, both back and front, undecided in character.

April 14th.—Pulse, 72; temperature, 99.8°. Patient has improved steadily; has gained four pounds, now weighing 145 lbs., his normal weight; does not cough, and appears to be quite well. Physical examination reveals no evidence of disease other than slightly diminished resonance over the outer half of the clavicle. Respiratory murmur is normal.

Result.—Complete arrest.*

Case XLVII.—A married man about thirty-two years old, a patient of Dr. Riggin Buckler, of Baltimore, who kindly permits me to publish the following extracts from his letters:

"Baltimore, January 25, 1880.

"In 1870 he had trouble at the summit of the right lung; went to China, and returned in 1871 well. The physical signs still show traces of the old disease."

Dr. B. did not see him again professionally until December, 1879, when he sent for him on account of a persistent facial neuralgia, the result of a broken-down condition of health. It was found "that he had been losing weight for some time past, had morning cough, loss of appetite, morning nausea, and shortness of breath. His pulse was quick, 115; temperature, 100°; this at 11 A.M. The dulness over apex of right lung is quite limited, and there are no signs there beyond feebleness of respiration and flattening of the chest-walls. At apex of left lung (upper third) the dulness extends over a greater area. I find increased vocal fremitus, interrupted respiratory movement with feeble and prolonged expiration."

January 29th.—Pulse, 102; temperature, 100.4°; weight, 130 lbs.

February 23d.—Pulse, 102; temperature, 99.2°. Has gained twelve and a half pounds since his arrival in Aiken, and walks six miles by the pedometer without experiencing any fatigue. Coughs and expectorates only in the morning, and has a good color.

March 26th.—Pulse, 96; temperature, 99.3°; weighs 150 lbs., a gain of twenty pounds since his arrival. His general appearance is that of a healthy and robust man. Physical examination reveals a marked diminution of the area of dulness on the left, the lower border of which extends now only to the second rib. With the exception of bronchial breathing at the apex of that side there are no evidences of disease in either lung.

I did not have an opportunity of making another examination, but Dr. Buckler was so kind as to send me the following report of his condition after his return home:

"Baltimore, April 12, 1880.

"W. arrived Saturday night in the midst of a regular March blow, with the thermometer at 32°. I called on him in the morning, and was more than surprised at his wonderful improvement. His gain in the two months, by actual weight, is twenty pounds, and he has the appearance of a well man. His muscles are hard and firm, voice steady, and his skin has the ruddy hue of health. He tells me that he has *no cough whatever;* that he can breathe freely and easily, and that no amount of exercise fatigues or makes him short-breathed. His appetite and digestion are excellent, and he 'sleeps like a top.' His pulse this morning at 11 A.M. was 80, respiration 24, and temperature, 98°. I find he can expand his chest without pain, and freely and easily. I can find nothing wrong on the right side, and, with the exception of a small area of dulness (with feeble respiration) over the upper and anterior surface of the left lung, I can discover no signs of disease either in that lung. Certainly this shows a most marked change as compared with the condition of things when he left this place for Aiken, and speaks volumes in regard to the fitness of the climate there for incipient phthisis.

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* I had an opportunity of examining this patient in Bethlehem, N. H., in July. Notwithstanding his having gone through an attack of dysentery and malarial fever, the cough had not returned, and the physical signs were the same as at the time of his leaving Aiken.

"Very truly yours,
(Signed) "Riggin Buckler."

Result.—Complete arrest of phthisical process, a gain of twenty pounds, disappearance of all physical signs of disease in the right lung, and marked diminution of the area of dulness on the other side.

(To be continued.)

Progress of Medical Science.

A Peculiar Disease of the Intestine.—Dr. Helweg relates, in the *Hospitals Tidende*, Seite 2, Band VI., the case of an insane peasant, aged forty-five, who had for many years suffered from constipation, pain in the abdomen, and swelling in the ileo-cæcal region. These symptoms came on when he was out of bed, and were relieved when he was lying down. At last he was obliged to remain in bed continually. About every month he had an attack of disorder of the digestive organs—diarrhœa or constipation—which lasted about ten days. In May, 1878, an indolent tumor, feeling like a loop of intestine and yielding a tympanitic sound on percussion, was detected in the right iliac fossa. On deep pressure a sort of crepitation was felt in it; it sometimes suddenly disappeared when friction was made, and reappeared after an interval varying from a few minutes to a day. The patient died in December, 1878, with the symptoms of meningitis at the base of the brain. At the necropsy, miliary tubercles were found in the pia mater, lungs, and liver. The upper part of the cæcum and the lower part of the colon were much distended with gas; then came two contracted portions of colon, separated by a distended portion of the bowel filled with gas; the portion of the colon on the other side of the flexure was normal. In the first of the contracted portions of the colon the mucous membrane formed a sponge-like tissue, the meshes of which and the intestinal space were filled with round scybala; in one place there were two straight channels lying parallel with the lumen of the gut. In the other contracted portion the mucous membrane was thickened, but not spongy. On microscopic examination it was found to have its ordinary structure of intestinal mucous membrane.—*The London Medical Record*, July 15th.

A Simple Apparatus for Artificial Inflation of the Lungs.—Dr. Gadbury, of Yazoo City, Miss., employs a very simple and inexpensive apparatus for artificial inflation of the lungs—a method of treatment which, however valuable, has been greatly restricted in practice on account of the bulk and expensiveness of Waldenburg's apparatus. It consists merely of a Richardson hand-ball and bulb atomizer, in which a mouth-piece has been inserted in place of the spray tubes. The method of its employment is as follows: the patient, having dilated his lungs to the fullest extent, immediately places the tube of the compressor between his lips, closes the nasal passages with one hand, and works the compressor rapidly with the other hand. A few squeezes pump an intermittent current of compressed air into the lungs; as soon as the distention becomes unpleasant, or the need of an expiratory movement is felt, the instrument is withdrawn, to be replaced and re-employed in the same manner a few moments subsequently, the operation being repeated four or five times in succession. In a healthy subject the operation is painless and may be prolonged for a minute or more, but to a person with diseased lungs it is at first disagreeable though not painful. The patient can at first force in but little air, but practice soon enables him to pump it in more freely and for a longer period each day. After frequent use it affords great comfort to those who suffer from a feeling of suffocation and have diminished capacity of the lungs. Dr. Gadbury gives brief histories of a number of cases in which the apparatus was employed with great benefit. He claims that the fresh air thus forced into the lungs expands unused capillary tubes and air-cells, displaces the residual air and noxious gases, excites cough and expectoration, removing morbid secretions at once, and obviating the necessity for expectorant medicines, oxygenates the blood, promotes absorption, relieves dyspnœa, gives impetus to the pulmonary circulation, reduces temperature in fever, and dessicates the fluids in the air-passages. He expects beneficial effects from inflation by this method in croup, diphtheria, bronchitis, asthma, tuberculosis, whooping-cough, asphyxia, chloroform-poisoning, foreign bodies in the air-passages, and many other obstructive lesions of the pulmonary organs. Vapors and gases may also be introduced into these organs by means of this method.

Dr. J. Solis Cohen writes that he has given this plan a trial during the past year. He has found that it cannot be employed safely in all cases in which Waldenburg's apparatus can be employed with advantage, but that it has a sufficiently wide range of utility. In patients liable to hæmoptysis or other hemorrhages, and in certain cardiac and visceral disorders, the intra-thoracic compression, if left to the patient, is apt to be too powerfully exercised, and thus to be absolutely detrimental. He believes that it is seldom safe to use compressed air with a pressure exceeding from one-sixtieth to one-thirtieth of an atmosphere, and quite delicate handling of the ball-compressor is requisite to keep within this limit, while the size of the compressor prevents access of air in large volume, or at constant pressure. He has found the Gadbury particularly useful as a mechanical expectorant.—*St. Louis Courier of Medicine*, August, 1880.

Two Cases of Inversion of the Uterus Mistaken for Polypi.—Dr. Chavernac recently reported the following case to the Société de Chirurgie: A woman, aged fifty-eight years, had suffered since her last confinement, thirty years previously, from a tumor in the vagina, which the physicians consulted unanimously regarded as a uterine polyp. As her health was impaired by it, she demanded an operation, and an ordinary ligature was applied. She immediately complained of pain, which rapidly increased in severity, and a paralysis of the left leg developed. Dr. Chavernac was then called in consultation, and came to the conclusion that the tumor was not a polypus, but an inverted uterus. One of the reasons that led to this diagnosis was the fact that when the tumor was pressed between the finger and thumb it felt as if it were hollow. The ligature was at once removed, but although it had as yet produced very little local effect, the symptoms of peritonitis persisted, and the patient died thirty hours after the operation. In discussing in connection with this case the treatment of inversion of the uterus, Dr. Chavernac insisted that surgical intervention is only justifiable when all the therapeutic measures have failed, and the life of the patient is seriously menaced. If an operation be decided on, the ligature should be chosen in preference to the knife, and preferably the elastic ligature. It must be borne in mind that a ligature badly applied may cause grave accidents.

In the discussion which followed, M. Delens stated that he had once removed an inverted uterus, which was mistaken for a fibrous polypus. A correct diagnosis was rendered very difficult by the fact that the pedicle was very small, scarcely larger in fact than the thumb. The condition of the patient, moreover, was very serious—there was extreme anaæmia, accompanied by a syncopal condition, which would have called for an operation even if a correct diagnosis had been made. The tumor was removed by the ecraseur, the operation lasting twenty-five minutes. The histological examination showed that it was really the body of the uterus with the Fallopian tubes. The patient recovered without any untoward symptoms. A digital examination undertaken some time afterward revealed nothing abnormal—the cervix projected into the vagina in the ordinary manner, and no one ignorant of the facts would suspect that the body of the uterus had been removed. M. Delens has collated the reports of eighty-two cases of excision of the inverted uterus. The ecraseur alone was employed in four of the cases, and in one case the ecraseur and ligature combined. Only one of these five cases terminated fatally, and hence it would be wrong to discard this method of operating. The results of ligature and excision, however, have been still more favorable.

M. Deprés drew attention to the great difference between ablation of the entire uterus, which has very often been followed by death, and amputation of a pediculated portion of the organ. In the latter case the cervix uteri prepares the ground for the operation by the permanent constriction which it exercises. When the inversion is complete, amputation leaves an open wound by which the vagina communicates with the peritoneum.—*Gazette obstétricale*, July 20th.

Fatal Purulent Infection Following an Unopened Abscess of the Thyroid Body.—Dr. Oulmont reports this case, which was observed at the Hôtel-Dieu, in the service of Professor Sée. A robust country girl, aged 26 years, was admitted in June, 1880. Ever since her eighteenth year she had carried a goitre, like most women in her native country. She stated that her menses had on several occasions been accompanied by a slight erysipelas, starting at the nose, occupying only one side of the face, and disappearing in about five or six days. She entered the hospital on account of a similar erysipelas which had appeared simultaneously with her menstruation, but this time, unlike her former attacks, she had suffered from repeated rigors, intense fever, and bilious vomitings during the formation of a little red patch on her left cheek. Moreover, her goitre, until then always indolent, had commenced to enlarge and grow painful.

Examined on admission, her condition was as follows: high fever (105.8° in the axilla), languor, dry tongue, anorexia, some abdominal tension, slight diarrhœa, and an erysipelatous patch on the left side of the nose and cheek. The thyroid tumor had the size of a small orange; showed heat and redness in the median line; pressure there, movements of the neck, and deglutition provoked severe pains. For some time her condition remained unchanged, then the left shoulder became swollen and painful. Repeated rigors occurred, and purulent infection was now pronounced. The tibio-tarsal joint of the left side was next affected, prostration increased, the septic condition became still more marked, and at last the patient died. At the autopsy the goitre was found to consist of three lobes pretty evenly developed. The middle lobe was transformed into a purulent pouch, with fibrous walls, and contained a thick, grayish, sanguinolent matter. The other lobes were in a condition of follicular hyperplasia, with predominance of interstitial tissue. The tibio-tarsal articulation contained about a tablespoonful of greenish pus. The condition of the other organs indicated the existing septicæmia.—*La France médicale*, Aug. 25, 1880.

Sudden Death in Interstitial Nephritis.—At a July meeting of the Société Médicale des Hôpitaux, MM. Delove and Capitan presented a paper the object of which was to prove that fatal syncope may occur in interstitial nephritis. In two recent cases of sudden death at the Bicêtre, M. Delove found at the autopsies only the lesions of interstitial nephritis. Both of the sufferers had been in good health up to the time of death, which was not preceded by any morbid phenomena. A third patient had been subject to attacks of suffocation, in one of which he died. There was no trace of valvular lesion in any of these three cases, but the cardiac muscle presented sclerotic alterations. In discussing the paper M. Landouzy stated that he had made an autopsy a few days before, on a woman who had died suddenly. The brain was normal, but he found considerable hypertrophy of the left ventricle of the heart, and signs of advanced interstitial nephritis. M. Dujardin-Beaumetz drew attention to the fact that medical literature contains a number of cases of very rapid death of persons affected with interstitial nephritis, after the hypodermic injection of even very small doses of opium.—*La France médicale*, July 28th.

The Ganglionic Centres in Bright's Disease.—Da Costa and Longstreth, in summing up the researches on the state of the ganglionic centres in Bright's disease, have arrived at these conclusions:

1st. That in Bright's disease, especially in the contracting kidney, there exists a constant lesion of the renal plexus.

2d. That whilst this lesion might be looked upon as forming part of a general process of degeneration, in connection with the kidney disease, it is more probable that it is the cause of the renal malady, and precedes the degenerative changes.

3d. That the diseased condition of the ganglia furnishes the clue to the alterations of the vessels of the kidneys.

4th. That similar changes producing similar results may exist in other ganglia; for instance, in the cardiac plexus, explaining the hypertrophy of the heart.—*American Journal Medical Sciences*, July, 1880.

A Novel Mode of Treatment of Gonorrhœal Ophthalmia.—Mr. George Critchett, F.R.C.S., reports in the *Lancet* a case of gonorrhœal ophthalmia in which he had recourse to a heroic and novel method of treatment. Owing to the extreme acuteness and severity of the symptoms, the difficulty in separating the lids or exposing the cornea, and the impossibility of getting any solution into contact with the conjunctival surface, he had relinquished all hope of saving the sight, and felt justified in adopting any treatment, however severe, that promised a ray of hope. He passed a small, silver director under the upper lid as far as the edge of the orbit, against which he kept it pressed, and then with a small, sharp-pointed bistoury completely divided the lid perpendicularly as far as the margin of the eyebrow. In order to more completely uncover the cornea he separated the two angles of the divided tarsus and fixed them with fine sutures to the skin of the eyebrow. The cornea looked steamy but not ulcerated, and was buried in chemosed conjunctiva. The immediate effect of this proceeding was to diminish the redness and swelling of the lids and conjunctival membrane, and completely to expose the surface. The subsequent treatment consisted in painting over the entire surface of the conjunctiva, three times daily, with a solution of nitrate of silver—thirty grains to the ounce—and frequently cleansing and syringing with a solution of alum—ten grains to the ounce. A piece of linen moistened in this solution was kept constantly applied to the eye. This plan was continued, with gradual abatement of the symptoms, for a month; a weaker solution was then substituted. At the end of six weeks from the commencement of the treatment the eye had recovered with a perfectly bright, healthy cornea. At the termination of another fortnight the child was again placed under the influence of an anæsthetic, and the edges of the divided lids were pared and brought together with fine sutures. Good union occurred, the deformity very slight, and the lid perfectly performs its function. In the early part of the treatment the other eye was kept carefully closed with strapping so as to prevent any risk of inoculation.

Calcium Salicylate in the Serous Diarrhœas of Infants.—Dr. Alexander Hutchins recently read a paper before the Medical Society of Kings County, on the treatment of serous diarrhœas of infants by calcium salicylate (*Proceedings, September*, 1880). During the preceding three months he had treated in private practice, some twenty-seven cases of serous diarrhœa in infants, ranging from two months to two and a half years of age, using this one drug only. Some of the cases were seen but once, many only twice, and none above four times, and in all the disease is known to have been promptly and permanently controlled. No discrimination was made as to diet, which in some instances was breast-milk exclusively, in others condensed milk, the patent foods, or a mixed diet. In no case was any modification of the previous diet called for, save in the matter of quantity. All the patients were in good social and hygienic surroundings. In two instances the infants were at their summer homes, and the telegraph and mail related the symptoms and conveyed the medicine. In all cases the dose was three to five grains every two or four hours. The total quantity consumed by each patient varied between six and eighteen powders. In a few cases minute doses of aconite and veratrum were given during the persistence of high temperature, and in a few others, small doses of quinine were given after the subsidence of the disease. It was noted that the medicine seemed to have no influence in changing the secretions so as to modify the character of the evacuations. The discharges would be under control for a time, say from two to twelve hours, and the next movement would be a watery one, but there would be no further recurrence of the diarrhœa. There might be a return to normal movements, or there might be a change to a diarrhœa of indigestion, or to a diarrhœa from irritation of the mucous surface, each of which would require some special interference. These sequelæ were exceptional, and in no case did the serous discharge recur. The calcium salt had no appreciable effect on any one of the other forms of intestinal flux, whether lienteric or inflammatory, the serous diarrhœa alone seeming to be amenable to the drug. Each of the other forms required special treatment. An additional fact was noted, that the vomiting accompanying these diarrhœas was controlled as soon as the medicine began to show its effect on the discharges. Certainly, without exception, the stomach tolerated the presence of the drug.

The drug is prepared by mixing 276 parts by weight of the acid with 100 of prepared chalk, which will form 314 parts of the anhydrous salt, or, what is sufficiently correct, eleven of the acid to four of chalk, making about twelve and a half of the salicylate of clacium. It is given in syrup, or rubbed up in sugar and moistened with water, to a sufficient extent. The salicylate of bismuth has been used with success as well as the calcium salt, in the diarrhœas of infants, but it is, according to Dr. Hutchins, no better, and has the disadvantage of discoloring the discharges. It is prepared by adding 828 parts of the acid to 468 parts of bismuth oxide, which make 1242 parts of the anhydrous salt; or twelve parts of the acid may be added to seven parts of the oxide, which will make about eighteen parts of the salt.

Relation of Atropia to Opium-Poisoning.—Dr. A. Dochman, as the result of a study of a number of cases of opium-poisoning, states that between these two drugs exist an antagonism only in their action on the pupil and respiratory movements. But on the heart and brain they act independently, one rather intensifying the toxic effect of another than neutralizing each other.—*Meditz. Obozrenie*, May, 1880.

Lesions of Costal Cartilages and Ribs in Consumption.—To determine the cause of the severe pain phthisical patients complain so much of during the last stages of the disease in the region of ensiform cartilage, Dr. Kostiurin made microscopic examination of this and adjoining parts. He found periosteum and perichondrium thickened, and their vascular supply increased. Cartilages were in a state of inflammation. Softening and fatty degeneration. Tubercles were found in the marrow of the ribs. Muscular fibres of the diaphragmatic attachment to these parts were opaque and granular. These lesions determine a decrease of elasticity of the thorax, and, consequently, a diminished gaseous exchange in the lungs.—*Vratch*, 1880, No. 5.

Inoculability of Intermittent Fever.—Dr. Dochman reports a number of cases where he succeeded in inoculating the intermittent by using the contents of the vesicles of herpes labialis of patients suffering from the fever. In the first case he inoculated, on the 8th of February, a healthy man thirty years old from a boy twelve years old, with quartan. On the 11th of February the man had a full paroxysm with 30.1° C. On the 14th only malaise, without chill, with 38.3° C. In the second experiment he inoculated, from a girl with quotidian, three men. One of them suffered every evening for five days from full paroxysms, with the temperature 38.5° to 39° C.; another had only evening malaise; in the third no effect was observed. In the third experiment a girl was inoculated on 12th of April. She had paroxysms on the 14th and 16th.—*Vratch*, 1880, No. 22.

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HOSPITAL MANAGEMENT.

At present a discussion is being carried on in Great Britain regarding the proper relations which should exist between the lay and medical boards of hospitals. The immediate occasion of this is a published manifesto of the governors of Guy's Hospital concerning the nursing question in that institution. The document in question is intended to be explanatory of the course pursued by the governors and to reconcile, as is mildly intimated, any misunderstandings with the medical board. That it utterly fails in such endeavor is plainly evident by the comments of the English medical press. Without exception the governors are condemned not only for the course originally pursued in attempting to make radical changes in the nursing department of the hospital without consultation with the medical staff, but for making, under the cover of public explanation of their position, a misstatement of facts and a misrepresentation of the motives of the staff. The consequence is that the two boards are further than ever from any agreement, and, as has been boldly stated by a leading medical organ in London, the time for compromise has passed and an appeal to Parliament is necessary.

It will be remembered that a year ago the governors of the hospital determined upon making certain radical changes in the nursing department which appeared to them to be necessary. A contrary opinion held by the staff was ignored, and many so-called sweeping reforms were made in the department named, much, as was claimed by the staff, to the detriment of the hospital as a strictly medical institution. From what can be learned by an impartial investigation of the question, it seems evident that the governors not only persisted in carrying out their views without consulting the medical staff, but used the power they possessed in an arbitrary and offensively dictatorial manner. What was simply a difference of opinion on an apparently trivial matter thus in time became an actual *casus belli* between the executive and medical boards, and demanded an appeal to public opinion for the adjudication of respective rights.

The history of this difficulty is not without its lesson as applied to the government of our own charities. It is not the question of changing the methods of nursing in any given institution. This is of small importance compared with the principle involved of lay boards interfering with the rights of medical boards. Its discussion involves a decision pro or con as to whether a hospital is most useful in the capacity of an institution for the medical care of the sick or as a free hotel for the sick poor—whether medical treatment for the sick, or lay management of the institution as a mere charity, is to take the precedence. It does not seem that there could be two opinions concerning these points, and yet the misunderstandings concerning them which constantly occur between the two boards of hospitals have made up, and doubtless will continue to make up, the history of most, if not all, of the errors in hospital management. That each board has its own well-defined prerogatives is now well settled. If we admit that the primary object of a hospital is for the cure of the sick, it is safe to assume that any interference with such an object, either directly or indirectly, by the managerial boards, is, to say the least, ill-advised. Hence, in all matters of a medical character the opinions of the medical staff should be asked for and acted upon. It has been proved here that while the medical boards have no disposition to interfere with the rights of managers, they are equally jealous of their own rights. That the prosperity of the hospital, in fact all the real troubles in hospital management, have centred in what have been a violation of the latter by the governors. But in this country both boards are beginning to understand the true merits of these relations, and are preparing to act accordingly. To such an extent is this the case that it would be hard to find here a parallel to the Guy difficulty. It may be safely stated, as a rule, that no board of managers of any hospital in this or other city would presume to dictate to the medical board concerning the medical management of patients. In all matters, even of an indirectly medical or surgical character, the opinion of the physician or surgeon is as final as it would be upon a particular remedy to be taken or a particular apparatus to be applied. Hence it is now the custom to consult the medical board on the questions of sewerage, ventilation, heating, nursing, and the like. Whatever orders are given regarding the detail management of any of these matters, are subject to the appeal of the medical board, and experience has shown times without number that a proper understanding between the two boards is usually obtained without trouble.

It is easy to see, when viewing the battle of Guy's at this distance, where the mistake has been made and how easy it could have been prevented by the governors taking a very natural course in consulting the medical staff before revolutionizing a system which was really part of the medical service of the hospital. That the governors still persist in attempting to vindicate their course is an evidence that what was at first supposed to be an error of judgment, has degenerated into downright obstinacy in exercising their powers. There can be but one end to all this, and until it is reached a great deal depends upon the united stand of the medical staff.

NEW STUDIES INTO THE NATURE OF DIPHTHERIA.

Under the direction of the National Board of Health certain experiments have been recently performed by Drs. H. C. Wood and H. F. Formad with the object of discovering the nature of the diphtheritic poison. These experiments were made for the most part upon rabbits, and were intended primarily to discover whether diphtheria could be induced in those or other lower animals. This particular point was quite well settled in the negative some time ago by Curtis and Satterthwaite, whose investigations were far more extended than those which are now presented. Drs. Wood and Formad have, however, given some valuable corroborative evidence, and have added other facts which are very suggestive and which really bring us somewhat nearer a true knowledge of the pathology of diphtheria.

The first series of experiments was made by inoculating bits of fresh diphtheritic membrane in the mouth and thigh of thirty-two animals; eighteen being rabbits, the remainder cats, dogs, and a goat. Six of these animals, all being rabbits, died within about two weeks or less from the time of inoculation. Post-mortem examination discovered evidences of tuberculosis in every instance. In only one case was there any tracheal false membrane, and in this the deposit may have been due simply to a catarrhal inflammation. Micrococci were found in the blood. In no case did inoculation by the mouth cause any local or general symptoms, a fact which corresponds with the observation of Curtis and Satterthwaite, that inoculations in the cornea were entirely ineffective. The inoculations in the thigh seemed to result in the development of small, cheesy lumps. These either became absorbed, or they infected the system and caused death by tuberculosis. The rabbits, then, it is concluded, may either die very soon after inoculation of diphtheritic membrane, by absorption of a non-specific septic poison, or they may die a week or two later from a tuberculosis due to absorption of cheesy products. Most of the animals experimented on by Curtis and Satterthwaite died from the former cause, perhaps because they used larger pieces of membrane and inoculated more deeply.

It was shown by subsequent experiments that the tuberculosis was not due to anything specific in the membrane, for that disease followed the inoculation of bits of wood, glass, and wire.

So far, not much more had been discovered than was already known.

The next series of experiments was made to determine the accuracy of Trendelenburg's assertion that the introduction of pseudo-membrane into the trachea produces diphtheria. Dried diphtheritic membrane was introduced into the trachea of four rabbits. One of these died in five days. The post-mortem showed a delicate pseudo-membrane in the trachea. It was 1 mm. thick in some parts, was infested with micrococci, and showed the usual structure of natural and traumatic pseudo-membrane. The internal organs were tuberculous, but there were no bacteria in the blood. The experiments, as far as they went, confirm the statements of Trendelenburg, but they indicate very little.

A study was then made of the effects of ammonia in producing pseudo-membranous trachitis. This substance was injected into the trachea of four rabbits, a cat, and a dog. All the animals except the dog died, death generally coming on in two or three days. False membrane was observed in the trachea of all six animals, and tubercles were also uniformly present in the internal organs. Furthermore, contrary to the statements of Oertel, bacteria and micrococci were in every instance found in the traumatic false membranes. The experiments seemed to show that diphtheritic membrane placed in the trachea will produce a fatal pseudo-membranous trachitis, although the same membrane inoculated in the thigh will not cause death, except indirectly, by exciting caseous foci and a resulting tuberculosis. This point, as stated by the experimenters, needs a further study.

A fifth set of experiments showed that other foreign bodies, such as slough, inflammatory products, and pus, will also produce a pseudo-membranous trachitis. So that the conclusion is almost certain that such trachitis is not a specific process, but is only an intense inflammation such as any highly irritant body may excite.

As a general conclusion, then, it is stated that the contagious material of diphtheria is really of the nature of a septic poison which is also locally very irritant to the mucous membranes; so that when brought in contact with the fauces and nose it produces an intense croupous inflammation simply by its local action, and without any absorption. But further, though it may sometimes thus act locally and directly, it may also bring on the angina by being first absorbed, then acting locally by being carried in the blood to the mucous membrane of the throat. Under this theory, again, it is possible that the poison may cause a purely local angina, no absorption occurring; or, on the other hand, a simple local nonspecific trachitis may end in adynamic diphtheria in consequence of absorption of septic material.

In regard to the relation of bacteria to the disease, it is stated that it seems altogether improbable that they have any connection with it whatever. There is, however, the possibility that the bacteria may act upon the exudations of the trachea as the yeast plant acts upon sugar, and cause the production of a septic poison which differs from that of ordinary putrefaction, and bears such relations to the system as, when absorbed, to cause the systemic symptoms of diphtheria.

These views in regard to the nature of the diphtheria poison have a good deal of the hypothetical about them, and are, indeed, only put forward tentatively by their authors. The experiments of Dr. Wood and Dr. Formad are very instructive, but perhaps in no direction more than in showing where further investigation is needed. It is to be hoped that the National Board of Health, whose bulletins have heretofore been somewhat meagre in scientific matter, will see that the present work is continued.

Reviews and Notices of Books.

On the Bile, Jaundice, and Bilious Diseases. By J. Wickham Legg, Fellow of the Royal College of Physicians of London, etc. 8vo, pp. 719. New York: D. Appleton & Co. 1880.

The practitioner who has come to the conclusion that very little of value can be said of the bile or the diseases with which it is associated, will be somewhat astonished at the size and contents of the present work. Considering the subjects treated, and the necessity for positive knowledge concerning them, he is, at first, willing to condone the infliction of such a large volume and such an elaborate treatise, but after wading through the larger number of chapters, and arriving at "conclusions in which nothing is concluded," he naturally wishes that the work was half its present size, and was of a more practical character. Saying thus much, it is due to the author to state that the work shows great research, laborious consultation of authorities, and careful study of the results of experiments upon the complex fluid. That very few practical deductions are made is due more to the abstruseness of the subject itself than for any lack of painstaking on the part of the author. In a word, then, the practitioner who takes up this work for the sake of any aid that it may afford him in the treatment of diseases of which jaundice is a symptom will be much disappointed. To the physiological chemist the case will be entirely different, for such will find a very complete review of the chemistry of the bile, and what is known of its physiological properties. Concerning the latter point, in view of the expressed uncertainty whether the liver be a mere filter, or if it secrete the bile itself, it would appear that some further investigations are called for. The same may be said concerning the direct influence of the ingestion of food and the quality and amount of the latter, the influence of nervous excitation, the real offices of the fluid, and the causes of its absence in the fæces in certain pathological conditions. Concerning the latter point our author maintains that it cannot be looked upon solely as an excrement, for it has been seen that deep changes in nutrition have followed its diversion from the body; that there is no evidence that it is necessary for the process of digestion, or for the purposes of a purge; that it has any special power in arresting putrefaction; and that it is capable of neutralizing the acid of the chyme. In fact, the only offices which are not positively disputed to it are the emulsifying of fats and the changing of starch into sugar. What we do not know has been proven by very careful and numerous experiments, and it is, perhaps, comforting to imagine that so far we have made a good beginning. The action of various drugs upon the bile is given in much detail, and is a careful summary of the experiments of Rutherford, Scott, Rohrig, and others. The usual practical guides to the presence of bile in the fæces not being reliable, according to our author, much of clinical experience regarding the action of so-called cholagogues goes for naught. For instance, Dr. Legg maintains that the absence of color in the fæces is not, as a rule, due to the absence of bile, and that the presence of the latter can only be determined with certainty by chemical examination.

In the portions of the work in which the diseases of which jaundice is a symptom are treated, the author has expended much labor and research, but in the general arrangement of his subjects he has reversed the general order by giving precedence to the symptom and its treatment. And yet, in the last chapter, he suggests that the term bilious diseases be entirely abolished. But the faulty arrangement does not detract from the otherwise valuable material presented under the different pathological conditions associated with jaundice.

Under these heads we have presented to us a very exhaustive account of the symptoms and pathological anatomy of acute yellow atrophy, of the jaundice of yellow fever, the icteric conditions associated with phosphorous, antimony, arsenical, and other poisonings; also the jaundice of pregnancy, of the fœtus, of the new-born, etc. The work concludes with a copious bibliography, which is particularly rich in references to the literature of acute yellow atrophy. The work is well printed, and is gotten up in the usual good style of the publishers. The paper is fine, the typography excellent, and the chromo-lithographs and engravings are well executed.

A Treatise on the Practice of Medicine, for the Use of Students and Practitioners. By Roberts Bartholow, M.A., M.D., LL.D., Prof. Mat. Med. and General Therapeutics, Jefferson Med. College, Philadelphia, etc. 8vo, pp. 853. New York: D. Appleton & Co. 1880.

In a work such as the one before us there are many points to take into consideration in estimating its value as a text-book for students and practitioners. But, considering its varied contents, these points can only be discussed in a general way. It may be said in the beginning that the work is of a thoroughly practical character, which fact will account for, or rather excuse, its almost comparatively small size. It would appear that everything is sacrificed to brevity and condensation of such facts in clinical history, pathology, and therapeutics as may serve the purposes of one who desires to get at a practical point by the shortest and surest route. To accomplish such a result not only involves a vast amount of study, research, and experience, but a faculty for bringing out the salient points, and presenting them in an intelligible and practical form. That Professor Bartholow is peculiarly qualified for such a task the present work fully attests. The discussion of any extraneous matters is omitted, as is also the reference to theories to explain this or that symptom, pathological condition, or therapeutical result. The division of subjects is natural, because anatomical in character. Each apparatus is taken up in turn, the various diseases described as to etiology, diagnosis, and treatment. In perusing the work, the reader cannot fail to be struck with the appreciation on the part of the author of the wants of the practitioner. This is apparent not only in referring to the pathology and treatment of the disease, but more particularly to its symptomatology, giving a pathological reason for the latter which serves to fix it in the mind of the reader. The diagnosis of disease is studied with particular care, and no pains are taken to present in the smallest space the necessary points to be taken into consideration in arriving at a conclusion. In some of these respects it resembles Da Costa's Medical Diagnosis, which, so far, is giving it the highest praise.

As might be anticipated, our author is a therapeutist in every sense of the word. But in his efforts to prove that medicines are of value in the treatment of disease, and that some are almost specific in their action, his enthusiasm sometimes gets the better of his judgment. Still the end so much justifies the means that no candid reader will call him to account. The new departure at this time is particularly desirable, and will tend to turn the attention of the profession to the more thorough and comprehensive study of the science of therapeutics.

The work as a whole is peculiar, in that it is stamped with the individuality of its author. The reader is made to feel that the experience upon which this work is based is real, that the statements of the writer are founded on firm convictions, and that throughout the conclusions are eminently sound. It is not an elaborate treatise, neither is it a manual, but half-way between; it may be considered a thoroughly useful, trustworthy, and practical guide for the general practitioner.

A New School Physiology. By Richard J. Dunglison, A.M., M.D., Editor of Dunglison's Medical Dictionary, etc. 12mo, 314 pp. Philadelphia: Porter & Coates.

This is a well arranged, comprehensive manual of physiology, and cannot fail to meet with the wants of teachers and scholars. The author has used good judgment, not only in the selection of his subjects, but in their intelligible and popular presentation.

On Slight Ailments: their Nature and Treatment. By Lionel S. Beale, M.B.F.R.S., Fellow of Royal College of Physicians, etc. 12mo, pp. 353. Philadelphia: Presley Blakiston. 1880.

The title of this little work is quite novel and taking. It cannot as such fail to recommend itself to the attention of the medical public. If it is destined to fulfil the expectations that it would naturally create, it will invite attention to an entirely new department of study, a study which is very much neglected. Fully fifty per cent. of all the cases that the physician is called upon to treat are comparatively trifling in character; that is to say, are such as do not particularly endanger life, or invite a permanent derangement of health. Hence the prescriber treats them with more or less indifference, and dismisses the patient without caring to give him much satisfaction or treatment. But there is ofttimes more skill to be shown in the satisfactory treatment of these ailments than is generally imagined. A slight dyspepsia, a teasing neuralgia, a bad breath, a persistent muscular pain, and a headache are just as legitimate subjects for treatment as pneumonia, Bright's kidney, dysentery, or typhoid fever. It is safe to say further that many times more reputations are made and unmade, as measured by the skill in treating what are called trifling ailments than is usually believed to be the case by general practitioners. Prof. Beale's little work furnishes a very efficient means to that end, treating as it does of the diseases which are of common occurrence, and on that account supposed to be of no importance. The reader who peruses the work will be impressed with the necessity of studying the slightest departure from the healthy standard, and thereby preventing serious maladies. Its table of contents will give a fair idea of the scope of the manual. After a suitable introductory, the state of the tongue in health and slight ailments is considered, after which are likewise treated in turn the conditions of appetite, nausea, thirst, hunger, indigestion, constipation, diarrhœa, biliousness, sick headache, neuralgia, rheumatism, feverish states, and common forms of slight inflammations. All these subjects are well considered, and will well repay a careful perusal.

A Manual of Minor Surgery and Bandaging. By Christopher Heath, F.R.C.S. Sixth edition. Philadelphia: Lindsay & Blakiston. 1880.

This edition of "Heath's Manual" has been somewhat enlarged and revised. It now contains 115 illustrations, and, as far as its text is concerned, very effectually covers the field usually occupied by works of its class. The descriptions of the various minor operations are to the point, and are, by aid of the illustrations, made perfectly intelligible to the merest tyro. Its standard has been fixed for the requirements of the house-surgeon in a large hospital, and is maintained throughout the work. For obvious reasons it is peculiarly fitted for the wants of the general practitioner who is called upon to do ordinary surgical operations.

The Ocean as a Health Resort: a Handbook of Practical Information as to Sea Voyages, for the use of Tourists and Invalids. By William S. Wilson, L.R.C.P., Lond. 12mo, pp. 260. Presley Blakiston. 1880.

This is a readable book, written in a popular style, and, as its title indicates, giving some practical hints concerning life on the ocean. The remarks are based on the incidents of a voyage to Australia, and much practical information is given under the following headings: curative effect of ocean climate; various health voyages, such, for instance, as those to West Indies, Brazil, Cape of Good Hope, India, Suez Canal, etc.; choosing a ship; life at sea; climate; weather; objects of interest at sea; climate of Australia; South Africa and its climate; and the meteorology of the ocean. Appended are some directions concerning the necessary outfit, and a chart showing the ocean routes and illustrating the physical geography of the sea. The author gives ample evidence of being practically familiar with his subject, and has written for the travelling public a very useful manual.

The Pathology, Diagnosis, and Treatment of Diseases of Women, including the Diagnosis of Pregnancy. By Graily Hewitt, M.D. Third American from Third London Edition. Revised and enlarged. With One Hundred and Thirty-two Illustrations. Philadelphia: Lindsay & Blakiston. 1880.

Dr. Hewitt is perhaps the best representative of English gynecology, and his name, as the author of this book, gives assurance that its contents deserve attention, even though they are now eight years old. The last London edition of this work was printed in 1872. Still, in most departments, the views therein expressed have not been superseded, and the book is to be criticised more for what it lacks than for any errors it directly conveys. The author belongs to the mechanical school of uterine pathologists, putting displacements, flexions, etc., as the initial point of most of the morbid changes. His views are just, so far as they go, but he fails to appreciate at all the pathogenetic importance of lacerations of the cervix and of the perineum. His methods of treating displacements are essentially in accord with those of the best American gynecologists, and need not be further criticised. In regard to gynecological surgery, however, Dr. Hewitt is far behind his American compeers. He is not only unsatisfactory in describing the operations, but he does not give all those that have been introduced at the present day. We instance the fact that cystotomy for cystitis is not referred to at all, so far as we can find.

The book is written in a pleasant and readable style. It will form a very useful addition to the library of the specialist, but it is quite insufficient for the beginner, who wishes to ground himself in modern gynecological science.

A Treatise on the Common Forms of Functional Nervous Diseases. By L. Putzel, M.D. New York: William Wood & Co. 1880. "Wood's Library of Standard Medical Authors."

In the preface to this work the author states his belief that pathological anatomists have now done nearly everything possible to discover the lesions in the diseases of which he writes. They have signally failed so far, and it is highly improbable, he says, that they ever will succeed. The changes at the root of the so-called functional diseases are molecular, and if ever their exact nature is discovered, it will most likely be through the balance of the chemist. It is perfectly legitimate, therefore, we are told, to use the term "functional disease," and it is wiser just now to pay more attention to the clinical study of this class of affections, as being much more likely to produce satisfactory results.

These are bold views to express at a time when pathological anatomy is being studied with so much enthusiasm. That they are sensible and true, however, we confidently believe, and the valuable character of the present work gives a solid support to the judgment of the author in asserting them.

The four classes of diseases treated of by Dr. Putzel are, chorea, epilepsy, neuralgia, and peripheral paralyses. In each the clinical history is made a prominent feature. On all the subjects the author shows a complete familiarity with neurological literature, while he adds no little original matter from his own experience.

The section on chorea is, perhaps, the most perfect of the four. It is, indeed, the model of a practical monograph, and forms the best short presentation of the subject that has been given. No one, of course, can discuss the pathology of chorea without subjecting himself to criticism; nor will Dr. Putzel be an exception. He discredits the value of pathological anatomy as affording any light to the seat or nature of the lesion in this disease, and he gives support to the theory of the malnutrition of the cortical ganglion cells as affording the most satisfactory explanation of its pathology. No theory, however, should be considered at all complete or satisfactory which ignores the facts of the close relations often existing between hemichorea and embolic hemiplegia, or of the anatomical fact of the extremely frequent existence of vegetations upon the valves of the heart.

The chapters on epilepsy are excellent ones. They contain, besides descriptions of the different forms of the disease, the records of cases illustrating certain rare clinical features, such, for instance, as the persistence of consciousness during an epileptic attack. The author favors the "explosive" theory of Jackson to explain the nature of the disease. The chapter on treatment is rather meagre.

The section on neuralgia does not call for special comment, except, perhaps, in regard to the part devoted to treatment. Dr. Putzel is inclined to be pessimistic as to the efficacy of drugs. He parades no panaceas, and announces no wonderful specifics. Additional confidence can therefore be given to those measures which are recommended.

Strychnia and galvanism are strongly endorsed in sciatica, and aconitia in trigeminal neuralgia. We find no mention of croton chloral or of tonga, and very little is said regarding nerve-stretching. Morphia is referred to with little favor. The section, on the whole, is vastly superior to the last work upon this subject by Dowse.

The chapters on peripheral paralysis are especially valuable, because they contain descriptions not found in works on general medicine, nor to any full extent in English works on diseases of the nervous system. The subject is treated here as completely as possible in a practical work. We are unable to see, however, by what authority he classifies inflammations of the nerves among functional diseases.

We regret that the author could not include some of the other than "common" functional nervous diseases in his work; nor do we see how he could justly exclude such diseases as hysteria, migraine or writers' cramp. What the author has done, however, he has done more than well, and it would be hypercritical to find fault for what the book has not.

Transactions of the State Medical Society of Arkansas. Fifth Annual Session, May 5, 1880.

This is a modest-looking volume, but it contains a number of interesting papers. One of the most important is that by Dr. J. H. Southall on "Expert Testimony without Compensation." In this the author relates the history of a case in which he vindicated the right of the physician to refuse to testify as an expert under pay as an ordinary witness. A novel case is that reported by Dr. Thos. W. Hurley on "Septicæmic Poisoning and Mercurial Eczema Caused by Wearing Vulcanite Plates."

Health and Healthy Homes: A Guide to Domestic Hygiene. By George Wilson, M.A., M.D., etc. With Notes and Additions by J. G. Richardson, M.D., etc. 8vo, pp. 314. Philadelphia: Presley Blakiston. 1880.

The author has endeavored, in this work, to place before the laity the subject of hygiene in a practical and concise manner. All the topics treated of are well worthy of perusal, especially the chapters on the "Causes of Disease," "Food and Diet," "Cleanliness and Clothing," and "The Home and its Surroundings." The book is gotten up in a creditable manner, and will prove of inestimable value to those who are interested in the care of families, as well as to others who wish to gain a knowledge of a subject about which so little, comparatively, is known.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 7, 1880.

FORDYCE BARKER, M.D., LL.D., PRESIDENT, IN THE CHAIR.

AFTER the reading of the minutes, the Librarian, Dr. Laurence Johnson, reported that 202 bound and 29 unbound volumes, 535 medical journals, and 245 medical pamphlets had been received since the last meeting.

The Corresponding Secretary, Dr. John G. Adams, announced the death of Alfred Swayne Taylor and Wm. Sharpey, of London, Francis Richley, of Italy, Paul Broca, of Paris, von Hebra, of Vienna, and C. D. Jackson, of Boston.

The Chairman of the Committee on Admissions, Dr. Mark Blumenthal, recommended the election of the following gentlemen as Corresponding Fellows: Philip S. Wales, Surgeon-General of the U. S. Navy; Gaetano La Loggia, of Palermo, Italy; and Frederick D. Lente, of Florida. They were unanimously elected.

THE AIR WE BREATHE AS AFFECTING HEALTH

was the title of a paper that was then read by DR. FRANCIS V. WHITE, who first referred to the composition of atmospheric air as found without and within buildings. Bad air, according to Angus Smith, contained 20.06 of oxygen, and an atmosphere that could be endured for only a short time, according to the same author, contained 17.20 of oxygen. The maximum proportion of ozone was stated to be $\frac{1}{700000}$ part of the bulk, and the chief source of that constituent was atmospheric electricity. Ozone was more abundant during the night than in the day; more in winter than in summer; and least in damp, foggy weather. The author of the paper then referred to the purity of the atmospheric air at different heights, from six to forty feet, and showed how the character of the strata could be modified by winds, etc. He then passed to the consideration of the atmospheric air within buildings, and dwelt at some length upon the deleterious influence of ground-air and the methods that had been proposed for giving us immunity from its evils. Reference and quotations were made from Dr. Stephen Smith's writings on hospital organization in that connection, and special mention was made of the heated shaft, with openings at various depths, as the proposed means for removing the evil influence exerted by ground-air.

The sources of impure air within dwellings were then noticed, such as vegetable and other substances in the cellar in an improper condition, the advent of sewer-gas, the use of carpets which become loaded with dust and all sorts of impurities, and when stirred or unloaded, fill the atmosphere with deleterious particles.

Another source of vitiated air within buildings was combustion from artificial lights, and some interesting analyses of the air in theatres were given.

The question of ventilation was considered under three heads: 1, natural, by means of doors, etc.; 2, aspiration, by means of chimneys, etc.; and 3, propulsion, by means of fans, etc. A somewhat extended reference was here made to the writings of Dr. John S. Billings on this subject, who regarded the question of heating and ventilation as still problematical—that is, so that all parts of each room, at all times, shall be as free from dangerous impurities and perceptible odors as the external air, without causing discomfort to the occupants. irrespective of the dryness or moisture of the external air. The author of the paper accepted the fan plan. He then passed to the consideration of the varieties of heating apparatus, such as fireplaces, steam radiators, furnaces, stoves, cast and wrought iron, and pointed out the advantages and disadvantages which each possessed.

For proper ventilation there must be ingress and egress of air.

The question of air-supply was then discussed, and the conclusion reached that it should be taken between six and forty feet from the ground, and that it should be screened and conveyed through conduits made of proper material to which ground-air could not have access.

A preference was expressed for wrought-iron instead of cast-iron furnaces, because of the porosity of the former.

The author's decided preference, however, was in favor of heating with clay heaters which have three chambers: 1, for the reception of cold air—below; 2, for combustion—between; and 3, for the hot air—above. The quality of the heat was moist and mild, and usually the water-pan was not needed. One advantage which the clay had over water was its power of retaining heat for several hours after the fire had gone out. Steam and hot water, however, were regarded as acceptable methods of heating, where expense was not a barrier.

THE PRESIDENT asked for an expression of opinion concerning the influence of gas-stoves, and the "sham wood fires" so frequently seen in fireplaces (gas made to present the appearance of a wood fire), and called upon Dr. Janes to open the discussion.

DR. E. H. JANES, after complimenting the noteworthy departure from custom which the Academy had made by giving opportunity for discussing a topic belonging to preventive medicine, remarked that, in his opinion, heating rooms with gas-stoves was the least desirable method, and was injurious, because it was next to impossible to provide a sufficient amount of ventilation to get rid of the products of combustion constantly being discharged into the room. He would not, however, say the same concerning "sham fires;" for, he thought if they were placed well within the fireplace so as to be subject to the draft of an open chimney, no harm would follow their use. The subject of the paper was an important one, because it was an accepted statement that poisons entered the human body through these channels: 1, food; 2, water; and 3, the air we breathe, and he believed it safe to conclude that, in the majority of cases, the offending material entered with the inspired air, hence the importance of as nearly absolutely pure air as possible for breathing purposes. He agreed with Dr. White with reference to the deleterious influence exerted by ground-air, and the danger to which we were exposed unless our cellars were properly protected against the exhalations constantly rising and constantly being drawn into our houses, especially during the seasons when furnaces in the cellar were heated. He believed it to be possible, however, to have cellars so thoroughly cemented as to prevent the ingress of ground air.

With reference to ventilation Dr. Janes thought that if advantage was taken of the principle of hot air ascending and cold air descending, the waste heat in our buildings could be managed so as to ensure proper ventilation. Ventilation, however, was not confined merely to the getting rid of a certain number of cubic feet of vitiated air, and supplying its place with a certain number of feet of pure air, but the regulation of the degrees of moisture of the atmosphere was an important factor. He did not believe that air was deprived of any of its moisture by coming in contact with hot iron furnaces; it was simply warmed, and its capacity for holding moisture increased, therefore, only relatively dry. But we felt that it was dry and irritating and uncomfortable unless a certain amount of moisture was added.

He did not agree altogether with Dr. White in regard to heating by radiation; but considered it as the most healthful method of warming a room. One of its disadvantages was its expense. One great advantage was that it warmed the body without heating the air, and air which had not been heated was more healthful than that which had been subjected to heat.

The imperfect combustion of coal in heating furnaces gave rise to a large quantity of carbonic oxide, which was a *direct* poison; and which more or less passed through *cast iron*, when heated to redness, and thus existed in the air as a direct poisonous constituent. Iron furnaces should be sufficiently large not to require red heat. One advantage of the clay heater was its large surface, thereby avoiding the necessity of raising it to so high a degree of temperature as was usually necessary with the stove or iron furnace. He thought that heating by means of water-pipes had the same advantage that clay heaters did, namely, were slowly heated and retained heat for some time after the fire was extinguished. With reference to the steam coil, it was very liable to become dusty, and, therefore, objectionable, as Dr. White had remarked, but otherwise, and if kept clean, he thought there was no serious objection to it as a means of heating buildings.

Dr. O'Sullivan spoke with reference to the improper ventilation of churches and school-houses, and of the necessity of avoiding ground air. As an illustration of how little attention was paid to the matter in the construction of public buildings, he cited a case in which a *new* public school building had one-half of its cellar flooded with water, and the board of managers had no idea of the exact condition of affairs.

Dr. Janes thought it essential to test the air with a hygrometer before reaching any conclusion concerning the amount of moisture it contained.

Dr. A. C. Post introduced resolutions complimentary to Dr. Henri Nachtel, who was chiefly instrumental in establishing "The Medical Night Service," and they were unanimously adopted.

On motion by Dr O'Sullivan, they were referred to the medical and the secular press for publication.

Dr. John G. Adams, on the part of the contributors, presented to the Academy a portrait of Dr. H. D. Bulkley, late president (1870-'71). His remarks were seconded by Dr. Frank H. Hamilton. The Academy then adjourned.

OBSTETRIC SECTION.

Stated Meeting, September 23, 1880.

Dr. Salvatore Caro, Chairman.

DEMONSTRATION OF POULLET'S OBSTETRIC FORCEPS, WITH GENERAL REMARKS UPON THE PROPER USE OF FORCEPS AT THE SUPERIOR STRAIT.

Dr. Josef Kucher read a paper and made the demonstration above indicated. The principle illustrated in Poullet's instrument was essentially that upon which Tarnier's forceps operates, with the addition of an apparatus for regulating and determining the amount of traction force applied. To illustrate, take an ordinary pair of long forceps, pass a strong cord or tape through each fenestra (in Poullet's instrument there is a hole for this purpose in shank of the blade, just below the fenestra), bring the ends out and tie them around a pivot attached to a button which is moved forward or backward by a thumb-screw at the end of a long iron bar that terminates in two padded feet which press against the inner surface of the thighs of the woman.

The author of the paper doubted whether either Poullet's or Tarnier's instruments would ever come into general use while so much could be accomplished by an intelligent use of forceps long and favorably known to the profession. (The application of Poullet's forceps was demonstrated on a manikin.)

Dr. T. G. Thomas remarked that he had but little to say concerning the forceps exhibited, for the reason that it was of doubtful utility to discuss the use of an instrument the practical action of which we know little or nothing. There were two fields in which to demonstrate obstetrical instruments: 1, on the manikin; and 2, in the lying-in chamber, on the living woman. However prettily an instrument might fit the manikin fœtal head and draw it through the passages of a manikin body, it could not be argued therefrom that it would operate equally satisfactorily upon the living woman. He thought the opinion expressed by the author of the paper, with reference to the use of forceps, were those which were generally accepted by obstetricians in this country. There was one point to which he wished to direct attention, and it was that in deformity of the pelvis the forceps were very frequently applied too early. He had seen the forceps applied and the most strenuous efforts made at effecting delivery fail. The instruments were then removed, and in the course of a few hours reapplied, when a delivery that was impossible before had become much easier from the fact that during the hours of waiting the labor-pains had been moulding the head of the child, its shape had become conical, etc., so that it entered as a wedge into the contracted pelvis.

Another point was as to *when* the forceps should be applied. He believed that the rule, when the head of the child was at the inferior strait or in the cavity of the pelvis, was entirely different from that which belonged to the use of the forceps at the superior strait.

If the head was within the pelvis or at the inferior strait, the forceps should always be applied with reference to the child's head, not with reference to the pelvis of the mother; and for the reason that the operator could choose the short diameters of the head, put them on where the pelvis was not occupied, and deliver with greater advantage than by doing otherwise.

But delivery from the superior strait was an entirely different question. In most instances the necessity arose from deformity of the pelvis, and when such was the case, delivery should be attempted only with special reference to the diameters of the entrance to the bony canal. He thought that, when Dr. Barnes insisted that in delivering from the superior strait the forceps should be used with reference to the pelvis, that he was in accord with Smellie's original idea in the construction of the long forceps; for they were constructed with reference to that very fact, and not with reference to the head of the child. Again, in probably ninety-nine out of one hundred cases we were uncertain as to the degree of the deformity of the pelvis. The measurements of the pelvis were very imperfect indeed. Let it be supposed, for example, that the obstetrician was uncertain with regard to the extent of the deformity: he thought it was safe and good practice to watch the woman carefully, taking into consideration her general condition, the condition of the soft parts particularly, and not interfere until the necessity was manifest. With reference to the application of the forceps, he thought that a great mistake was made if they were used with the idea that they must be adhered to throughout the case. The obstetric forceps should be applied as a tentative measure. A moderate or full degree of force might be applied, but after such, and the head not descending, the forceps should be displaced by some other method, and one of two others the obstetrician might adopt:

First, if the head was perfectly movable, *version.*

Second, far better than either the forceps or version, if the head was immovable, was the operation of craniotomy.

Dr. Isaac E. Taylor believed that the forceps, in a case of contracted pelvis at the superior strait, must always be applied to the sides of the pelvis, and that they could never be applied over the ears, as had been claimed to be possible by some writers. He believed it to be impossible to apply the forceps directly antero-posteriorly under such circumstances, as had been claimed by some gentlemen in Philadelphia.

Again, he thought he had never seen the forceps applied to the child's head in the cavity of the pelvis.

With regard to *force*, he believed that there was no necessity for it in forceps delivery. He believed in what he called the "relay treatment;" that is, the application of the forceps, gently holding the head in contact with the internal os, changing the direction of the expulsive force if necessary, etc., for ten, fifteen, or twenty minutes, and if not much advancement was made, remove the instruments, and, for a time, allow Nature to manage the case. Then reapply the forceps, and in most cases it would be found that a moderate amount of traction would cause the head to descend much easier than before. In that way the instruments might be reapplied several times; and finally, he never completely delivered the woman with the forceps. He contended that an intelligent operator was as capable of judging concerning the amount of force to be expended as was the instrument offered by Tarnier in its modification by Poullet. The fact was that all obstetric operations must be tested at the bedside of the woman, where a living manikin was to be operated on and two lives were to be saved. He regarded Dr. Thomas's remarks as entirely proper with reference to version in case delivery could not be effected by the forceps; but he thought that it could be accomplished by *external* version. He has not introduced his hand into the uterus for that purpose over three times during the last thirty years.

He thought that craniotomy should, as much as possible, be avoided. Dr. Taylor then related the history of cases illustrating the value of the "relay treatment."

Dr. Studley exhibited a modification which he had made of Tarnier's forceps.

Dr. Kucher remarked that Tarnier had made six modifications of his own instrument, and, curious enough, his *first* modification was exactly that offered by Dr. Studley.

Dr. S. T. Hubbard referred to three cases, interesting, with reference to modes of treatment:

In the *first*, Dr. Taylor in consultation, attempt at delivery with forceps failed. Version was performed, and a living child was the result.

In the *second* case, Dr. Taylor in consultation, the use of the forceps was unsuccessful. Craniotomy was performed. The mother lived. The same woman became pregnant again, and was delivered without assistance, and there was not much difference in the size of the children.

In the *third* case, Dr. Taylor in consultation, the forceps were applied *three* times, and the woman was delivered with safety.

The Chairman remarked, with reference to the time *when* the forceps should be applied, that after Nature had ceased her efforts art must come to the aid of the mother, but the delay must not be too great.

Correspondence.

RAPID LITHOTRITY.

BIGELOW'S METHOD—DEATH FROM SUPPRESSION OF URINE.

To the Editor of The Medical Record.

Sir:—I wish to put on record a synopsis of a fatal case of lithotrity, hoping that before long the statistics of this operation will enable the profession to pass a verdict upon its merits as compared to lithotomy.

August 25, 1880, a gentleman, æt. 70, resident of Alabama, consulted me concerning some trouble with his bladder. For six years just previous he had suffered from occasional attacks of cystitis and had passed at various intervals of this time a dozen urinary calculi, the largest of which measured about one-quarter of an inch in its longest diameter.

I sounded him and discovered a stone about one inch in diameter. Within the last few months his suffering had been much increased. He was prostrated from loss of sleep and the intense pain experienced in micturition, which act was necessary during every hour or two of the twenty-four. He was consuming about four grains of opium a day. The urine was loaded with pus and contained considerable blood. No casts. A slight amount of albumen was present, due to *liquor puris*, which always contains this substance.

For two weeks I prepared the patient for operation by tonics, diet, and gradual dilatation of the urethra. His condition improved considerably, and in consultation with Professor E. L. Keyes and Dr. E. A. Banks, who rendered me very valuable assistance, the operation was performed on September 14th.[*] The etherization and operation lasted fifty minutes.

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[*] I am also under obligation to Drs. Cramer and Ayers for the service rendered as assistants.

Four separate crushings and washings were made. The stone measured a fraction more than one inch in the grasp of the lithotrite. The instrument used was Professor Keyes' modification of Sir H. Thompson's crusher, and the exhausting apparatus was Thompson's. The largest tube (18 American) filled the urethra tightly. The stone, as the autopsy proved, was thoroughly removed without any injury to the bladder. The patient rallied well from the operation, talked rationally, and passed his urine several times in small quantities during the first six hours. A few hours later his water ceased to flow, he became delirious and vomited a small quantity of dark-colored fluid. The vomiting was explosive in character and indicated uræmia. In order to be sure that there was no retention, I introduced a small soft catheter into the bladder and drew off about two ounces of bloody urine, at the same time washing the bladder out with a three per cent. carbolic acid solution. The uræmia persisting, I administered a ʒ jss. fl. ext. jaborandi per rectum, which produced profuse perspiration and relieved these dangerous symptoms for the time. In consultation with my friend Dr. E. A. Banks, it was determined to attempt a restoration of the functions of the kidneys by the use of infusion of digitalis and citrate of potas. As soon as the patient was brought under the influence of this mixture the urine flowed in fair quantity, but incontinently. Chloral and morphia were given when necessary to relieve pain. He was fed on iced milk with a small quantity of whiskey added, at intervals and in fair quantity. Despite every effort the patient sank in a comatose condition and died eighty hours after the operation.

With the assistance of Drs. Banks and Edward Ayers I made an autopsy sixteen hours after death. A careful examination of the bladder showed this organ positively without an injury. There was evidence of the cystitis which had long existed. The third lobe of the prostate, which stood up in front of the internal orifice of the urethra, was slightly bruised by the passage over it of the exhausting tubes; but this injury was trifling in extent and not worthy of consideration as a factor in the fatal result. There were a half-dozen sand-like particles of the stone at the neck of the bladder, all of which would have easily passed *per urethram* with the first forcible act of urination. The condition of the mucous membrane of the bladder proved that it had not been "caught up" by the lithotrite. In the prostatic follicles were found embedded twelve small calculi, which had undoubtedly formed in these follicles. The longest of these was about one-sixteenth of an inch in diameter.

The left kidney showed two cicatrices, most probably the remains of quite recent abscesses. In the pelvis of this organ and in the interpyramidal substance was a quantity of extravasated blood. The right kidney was intensely congested, as in acute desquamative nephritis.

It was concluded that the cause of death was suppression of urine and uræmia, resulting from the shock of lithotrity, the shock resulting from urethral distention rather than from irritation of the bladder.

In summing up this case it may be said that, in justification of the unsuccessful issue:

1. The patient was over seventy years of age. 2. Had suffered from the disease at intervals for six years past, and constantly and severely for over a year just preceding the operation. 3. Had had old kidney trouble. 4. Had twelve calculi in the substance of the prostate.

As against the result: 1. Despite his advanced age and long sickness, he was thought to be in good enough physical condition to stand lithotrity without much danger. 2. He was calm, philosophic, courageous and hopeful. The stone was of small size.

John A. Wyeth, M.D.

Oct. 4, 1880.

ASYLUM MORTALITY AND NON-RESTRAINT.

To the Editor of The Medical Record.

Sir—In the Record of October 16th appears an item headed "Asylum Mortality and Non-restraint," in which is noted a diminishing death-rate in the County Asylum of Lancaster, England, and the fact is explained solely by the abolition of mechanical restraint. Scoffers might laugh at this exegetical feat, but the humble searcher after truth would rather ask a question. At my elbow lies a tabular statement of the ratios of deaths to the average numbers under care during the year 1876, in ten asylums—all located within the narrow limits of New England—as follows: at Augusta, Me., 13.07 per cent.; at Concord, N. H., 10.00; at Brattleboro, Vt., 5.82; at Worcester, Mass., 15.40; at Taunton, 10.24; at Northampton, 7.80; at Somerville. 12.50; at Providence, R. I. (Butler Hospital), 8.27; at Hartford, Conn., 6.76; at Middletown, Conn., 6.69. Now, here is presented a mortality varying considerably, and at several places as low as at Lancaster. But in all these institutions mechanical restraint is advantageously used like any other therapeutic measure on the physician's prescription. Will some one explain these figures on the "abolition" theory?

Querist.

MALARIAL MANIA.

To the Editor of The Medical Record.

Sir—In a recent issue of the Medical Record I notice a correspondent has ventured to deny that malaria is the cause of all disease to which humanity is heir. I am glad to know that one member of the profession has the brain to see and the courage to talk against this assumption of human ignorance. When I commenced the practice of medicine, thirty-five years ago, the liver was the only organ noticed in the human body, and calomel the only remedy. Now malaria is the source of all our woes and quinine the antidote.

Being an old doctor, I am frequently called in consultation by the younger members of the profession, and for the last ten years I cannot call to mind a single case of any disease, from a stone bruise to a broken neck, in which the doctor had not given quinine. These doctors tell me the books recommend us to do so and so. Before a man writes a book he is just a common doctor like the balance of us; but as soon as he gravely writes his opinions down in a book they become as the voice of inspiration.

Not long since I read an article at one of our county medical societies against the use of quinine in pneumonia. I said that if there was no more quinine used in the treatment of disease than was necessary, that quinine would not be worth a dollar an ounce. Well, my brethren said I was a heretic.

There has been an epidemic here, during the last few days, among children. They had a fever, attended with a cough, and the disease ended in about seven days.

My professional brethren all gave quinine, they said it was malaria, and the patients all got well. I could neither see nor smell the malaria, so I gave no quinine, and my patients all recovered also. Of course it was all malaria.

There has been in this vicinity an epidemic of typhoid fever, or, as it is now fashionably called, typho-malarial fever. Some gave quinine from alpha to omega, but with no apparent benefit. It neither abated the violence, nor shortened the duration in the slightest degree in any case.

The doctors who gave it said it was recommended in certain books, and they considered it their Christian duty to prescribe it. I was called to one of these cases on the ninth day of the fever, the case was a girl of fourteen. She was most inveterately delirious.

The physician in attendance had give this beautiful maiden twenty grains of quinine per diem, for nine long, dreary days, and the stuff would neither act antipyretical or vaso-motorically!

This doctor said the girl was "pizened" with malaria, and he wanted to continue the quinine.

The spleen has now superseded the liver. We have all become leucocythemic instead of bilious.

I am living where malaria is supposed to reign supreme.

Where the crocodile croaks,
And the bullfrogs enchant;
Where the pond-lillies bloom,
And the lizards do haunt.
Where the goose and the duck
Forever do quake,
As they dip their broad bills
In the mud of the lake.

But inasmuch as this malarial phantom does not put in his appearance, unless the days are hot and the nights cool, I suppose I may be excused for not following the "traditions of the elders."

G. M. D.

KEYTESVILLE, MO.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 17 *to October* 23, 1880.

MATTHEWS, W. C., Capt. and Asst. Surgeon. His assignment to duty at Cantonment on Uncomphagre River, Col., revoked; and he is assigned to duty at Fort Wingate, N. Mex. S. O. 229, Department of the Missouri, October 16, 1880.

TORNEY, G. H., Capt. and Asst. Surgeon. When relieved by Asst. Surgeon Matthews, to proceed to Fort Lyon, Col., and report to the Post Commander for duty. S. O. 229, C. S., Department of Missouri.

GIBSON, R. J., First Lieut. and Asst. Surgeon. Relieved from temporary duty at Fort Leavenworth, and assigned to duty at the Cantonment on Uncomphagre River, Col. S. O. 229, C. S., Department of Missouri.

EXTREME RARITY OF ROUND ULCER OF THE STOMACH IN THE SOUTH OF RUSSIA.—Prof. Laschkewitch of Charkoff, in a letter to the editor of *Meditz. Vestnik*, calls the attention of the profession to the extremely rare occurrence of this disease in southern Russia. Since 1869, when he took the charge of the University therapeutic clinic, he had seen only one case of ulcer of the stomach, and that was in a Jewess. Examination of 383 autopsy reports failed to find a single mention of this disease, or of the scar indicating its previous existence.—*Meditz. Vestnik*, 1880, No. 29.

Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 23, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Oct. 16, 1880.	0	14	54	5	21	94	2	0
Oct. 23, 1880.	0	11	82	1	9	97	1	0

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK. —At the annual meeting of this Society, held October 25, 1880, the following named members were elected as officers for the ensuing year: Dr. A. E. M. Purdy, President; Dr. F. A. Castle, Vice-President; Dr. W. M. Carpenter, Secretary; Dr. P. B. Porter, Assistant Secretary; Dr. O. B. Douglas, Treasurer; and Drs. D. Webster, F. R. Sturgis, R. A. Barry, P. F. Mundé, and D. Lewis, Censors. Thomas A. McParlin, M.D., Surgeon U.S.A., and George Edward Rindfleisch, M.D., Professor of Pathological Anatomy in the University of Würzburg, Bavaria, were elected honorary members.

THE "EPIZOÖTIC," though hardly so extensively prevalent in this city as at first, has been spreading through the country and has caused considerable injury to horse-flesh. Beginning at Boston, it reached New York about September 25th, where it spread rapidly. It soon travelled up the Hudson. It then appeared in Philadelphia and in the Delaware Valley. It extended up and down this latter district for many miles, and hundreds of horses were affected. About the same time it appeared in Cleveland, then in Chicago, and many western towns.

The disease is milder than when it appeared in 1872. The first symptoms (*Archives of Comparative Medicine*) are hanging of the head, shuffling gait, and a generally tired air, which are soon followed by a short, husky cough, sneezing, and a thin mucous discharge from the nostrils. The pulse is accelerated and the heart's action weak. The visible mucous membranes are injected, eyes watery, with occasionally slightly purulent secretions. As the disease advances all these symptoms increase; the temperature rises rapidly, in some cases to 107° F. The bowels become slightly affected, the appetite lost. There is marked tenderness over the larynx. On the whole, the symptoms are those of an acute coryza and laryngitis.

A curious sequel in many cases is purpura hæmorrhagica. This is a disease which gets its name from the fact that there are hæmorrhagic extravasations in the nasal and alimentary mucous membrane, and probably elsewhere. The legs and head become greatly swollen and œdematous. There is a well defined limitation to the œdema of the legs. The superficial vessels here seem to burst, and a bloody oozing stains the lower part of the extremities. There is an acute cystitis and nephritis in some cases. Sometimes, also, there is pericarditis, with great effusion.

The same influence which produces the "epizoötic" seems to have affected, to a large extent, human beings in this city at least. People who rarely have "colds," and who have not been at all exposed, are suddenly taken down with a very severe form of influenza. The attacks last longer and are much more severe than ordinary "colds."

It is useless to speculate on the causes of the present epidemic. It is, of course, attributed to some atmospheric influence, but further than that nothing certain is known. There is no specific treatment for the disease either in horses or men. Fortunately, few of the former and none of the latter die from its effects.

Listerism and Ovariotomy.—We copy part of a pungent editorial from the *Louisville Medical News*, and can heartily endorse the sentiments expressed by its editors: "A hot and acrid discussion is now in progress in England between Mr. Lawson Tait, the well-known ovariotomist, and Mr. Knowsley Thornton, a surgeon of large and growing fame in the same line of work. Mr. Tait claims to have had but two deaths in sixty ovariotomies performed without the carbolic acid spray. He speaks of patients 'killed by Listerism,' and declares that the recent reduction in the death-rate in this operation is largely, if not entirely, due to the introduction of Mr. Keith's intraperitoneal method. . . . . The editors of this journal are entirely in accord with Mr. Tait on this important question. The majority of the profession throughout the world follow Lister; but we believe the majority of the profession in this instance, as in many others which medical history records, is wrong. In republics the power is with the majority; but scarcely more in science than in religion and politics do truth and right necessarily dwell with the largest number. The majority in medicine once bled all fever patients with as little compunction as the maple-sugar makers tap their trees in the spring, and with equal confidence in the wisdom of their procedure. The majority in medicine used to regard salivation about as necessary to corporal salvation in serious sickness as the clergy tell us 'conviction and forgiveness of sin' are to the soul's eternal safety. If numbers prove the truth, then the crusades were wise, Mohammedism is right, and the opponents of Listerism are constructive homicides. Listerism is founded on the germ theory, and this is based on the microscope and the imagination. . . . . Medical dogmas as plausible as Listerism have flourished and perished in the past, and we have little doubt that before the close of the century Listerites will be as rare as white crows, if not, like the dodo, utterly extinct; and when discovered, they will be looked on as a curious specimen of the nineteenth century's medical credulity."

If we are correctly informed, Listerism in ovariotomy was abandoned for a time at the Woman's Hospital in this city. Excellent results were obtained while thus operating without the spray. Listerism was taken up again, however, largely on account of the remarkable success that Wells and Keith were having while operating with it. In the large general hospitals of the city the method is not very extensively used, and has of late rather lost ground.

Red Perspiration in Axillæ.—Dr. H., of Savannah, Ga., writes: "I noticed, in a recent issue of the Record, a short article on 'Red Perspiration of the Axillæ,' in which the words, 'The perspiration from the axillæ stained the shirt red, but occasioned no other inconvenience.' As I am subject to this red perspiration of the axillæ, and suffer no other inconvenience whatever, I can corroborate the above statement.

"The description of the state of the hairs in the article referred to corresponds exactly to the condition of mine. But a strange feature in my case is, that although I always perspire a great deal every summer, saturating my undershirt at least once daily since the first day of June, as well as I can remember, it is *only occasionally* that my shirt is stained red at the axilla; and I think that this is more likely to occur if I take an unusual amount of exercise, such as a long walk out of town, or rowing. In the Record of May 22d, p. 580, is another article on the same subject, by Dr. W. A. Dayton, in which he says: 'In each instance the patients were afflicted with pediculi pubis, and the axillæ were inhabited.'

"Now, on this point I think the doctor is entirely mistaken, and as far as my own case is concerned I *know* he is mistaken, as I never yet had to support a family of pediculi pubis, and I have been subject to the red perspiration of the axillæ for several years.

"Another fact which induces me to believe that Dr. Dayton is mistaken in regard to the cause of this affection is that in my case I have never known this red perspiration to occur except in summer, while I am inclined to think that in this climate (perhaps also in others) the pediculi pubis will affect persons in winter as well as in summer. Although I have, while hunting, been perfectly covered with perspiration in the middle of winter, yet I have never noticed a red stain or the peculiar condition of the hairs at that season.

"As to the treatment, I have not yet given it a thought, but I find that a liberal and daily application of soap for weeks continued has not removed that peculiar condition of the hairs; and from the fact that I have been in the habit of using soap and water liberally and daily, winter as well as summer, I *know* that their use has not prevented the affection in my case, but it has prevented the hairs in the arm-pits from being 'invariably matted together with the honey (?) secretion.'

"If this affection were produced by 'a sticky substance (honey?) covering the hairs,' this substance would impart its *stickiness* to the perspiration, and through it to the fabric of the shirt, but I have not found this to be the case.

"Although I have not made a microscopical examination of the hairs thus affected, I am inclined to think, with Dr. Key, that the affection is due to a peculiar fungous vegetation."

The Human Tail.—Virchow (says the *Chicago Medical Review*) makes the receipt of a communication about an alleged case of tail in man, from one of his Greek correspondents, the occasion for a full review of this subject of caudate human beings. He considers the condition of so-called sacral trichosis, in which a large tuft of hair is found at the sacral region, as related hereto. Instances of this latter kind indicate probably a genuine ancestral trait, for a tuft of hair on the sacrum is all that represents the tail in anthropoid apes. The immediate ancestors of the human race were as tailless as men themselves, and as their nearest living relatives, the orang, gorilla, chimpanzee, and gibbon. The presence of a true tail in a human being can therefore be regarded only in two lights—either as a hap-hazard monstrosity, or an atavism in the sense of the preservation of an early embryonic feature. Among well authenticated examples of human tails, Virchow describes that of an infant born in Oldenburg. It had a tail which it could move and which was coiled up like that of a pig. He suspects that among certain little studied races, Tartars, Greeks, and possibly some African tribes, this feature may be of more common occurrence than in our own. He finds in such tails as he has examined no true vertebral elements; the only feature which exhibits its homology is a central cord, representing, perhaps, the chorda dorsalis.

Watermelon Seeds impacted in the Rectum.—Dr. E. J. Bergen, of Wamego, Kansas, writes: Seeing a few weeks ago an account of an accumulation of watermelon seeds in the rectum, I send you the following: About the first of September last, I was called in the night to see a girl, aged ten years, the daughter of Mr. R., who lives seven miles south of this town. After having examined the child, I was not satisfied as to what was the matter, but as her bowels had not moved for a day or two, I left a dose of calomel and jalap, with instruction to give it to the girl, and came away. The next day I was sent for again, and as she was then complaining of considerable tenesmus, I made an examination of the rectum, and saw a watermelon seed projecting from the anus. Taking the smallest blade of a Sims' speculum, which I happened to have with me, I inserted it in the bowel, and obtained, after a good deal of difficulty, over one-half pint of seeds, with complete relief to the child.

Antiseptic Treatment of Typhoid Fever.—Dr. J. H. Putnam, of Rutland, Vermont, writes: In the issue of the Record, dated Oct. 2d, I noticed an article in relation to a new method of treatment—the antiseptic—of typhoid fever, by Dr. C. G. Rothe. I have been in practice thirteen years. The first eight years I treated my cases of typhoid fever according to the prescribed methods, embracing quinine, acids, turpentine, opium, calomel, etc., reading Flint and Aitken principally as text-books. I was located in a section of country where I saw a large number of patients for a country practitioner. It was my lot to lose a number of cases. Five years ago I adopted a new method of treatment—the antiseptic—and I have not had cause to regret it, as all my cases have recovered. My treatment now is hyposulphite of soda, charcoal and carbolic acid. Milk and beef-tea in abundance, and stimulants if required. I find this difference in symptoms: tongue and mouth remain moist; seldom any delirium, and when present only slight, bowels slightly tympanitic, and in most cases entirely absent. The majority of cases beginning to convalesce the fifteenth day, occasionally running to the twenty-first day; but I have not had to contend with those long lingering cases of four and five weeks' duration. I rely mostly upon the hyposulphite. When it causes nausea I use the carbolic acid. If diarrhœa is active I use the charcoal. I keep the vapor of bromine in the sick-room all the time. If patient is restless and an anodyne is required, I use the bromides in milk, or valerianate-ammonia, or some mild anodyne. Not opium, because it locks up the bowels too much. I prefer my patient would have from four to eight discharges daily, because it keeps the bowels empty, not allowing the products of the ulceration to remain long in the alimentary canal. I insist upon the use of large quantities of milk, and at stated hours; the length of time between taking nourishment depending upon the ability of the stomach to retain it. I believe the antiseptic remedies do for the contents of the intestines just what we seek to do when we use a disinfectant in the vessel which receives the evacuation. I have no doubt the remedies have some local action upon the ulcers, but it is apparent that they cannot be administered in a form strong enough to make a decided impression without injury to the stomach and passage thereto. The above method of treatment is not original with me, but the result of suggestions made to me by Dr. M. Goldsmith, Rutland, Vt.

Mathematical Calculation in a Dwarf.—Dr. Samuel W. Francis, of Newport, R. I., writes: In a recent number of your journal you mention an interesting case of a dwarf in Europe, whose powers of calculation were remarkable. I remember distinctly witnessing a similar phenomenon in New York, some four years since. While visiting Dr. Sayre, a dwarf, about eleven years old, with a curved spine, came in the office to be treated by Dr. Sayre's method of employing hanging as one of the fine arts. While there the dwarf asked Dr. Sayre the day and year he was born, and before several gentlemen, and without any aid but his brain, told him in *three minutes and a half* exactly how many seconds he had lived. It is well to record such cases.

Treatment of Fetid Perspiration of the Feet.—Dr. F. E. Maine, of Philadelphia, writes: In the fall of 1876 a young man came to me suffering from a most disagreeable bromidrosis. Remembering the common treatment by astringents and cleanliness, I at once recommended him to wash the feet each night and morning with a strong castile soap-suds, and gave him for an application:

℞. Acidi tannici........................ ℥ ij.
Aquæ........................... ℥ iv.

M. S.—Apply after the bathing and at once put on socks.

This was faithfully used for over a week, but no improvement could be discovered and a change was necessary, and I gave him a large lump of alum and told him to put it in enough *hot* water to wet his socks in (in order to get as strong a solution as was possible) and let what would dissolve, and then wet the socks in it and put them on hot and wet, and he tried that for two weeks, at the end of which time a very slight improvement was visible. Not satisfied, I tried clear alcohol, but, like the latter, it was slow. The strictest cleanliness was enjoined, but my patient was discouraged and said I must do something as soon as possible that would do some good, and not knowing what else to try I finally settled on chloral hydrate and prepared a tincture of the drug in the following manner:

℞. Chloral hydrat.................. gr. xx.
Spts. vini...................... ʒ iij.

M. S.—Bathe the feet thoroughly in castile soap-suds. Apply the solution with a sponge, and put on socks while feet are wet.

The preparation was used that strength for four days when the young man returned reporting a greater improvement than he had seen during the whole period of treatment before used. And upon examination I found the stench was very much diminished and they had not sweat as freely. I gave him a solution of just double the strength of the other and advised him to use it the same as the other. On the fourth day he returned again and said "a new skin was coming all over the bottoms of his feet and the old skin was most cleaned off."

He continued to use the preparation for two weeks more and was entirely cured. I saw the patient during the month of September, 1880, and he says he has never had any recurrence of the trouble.

The second case came to me by recommendation of No. 1, and was much the same in nature, and the treatment was the same and was cured in less than three weeks.

The third case which I have full notes of and give you the history of was the sixth case that came to my notice, and was the worst case of the disease I ever saw. I will give you the history just as it is given in my note-book.

Male patient came to office first time, morning, August 2, 1879. Disease—bromidrosis, very severe. Soles of both feet white, puffy, and so tender he cannot walk without producing the most severe pain. Stench unbearable, and the feet sweat so profusely that he can wring water from his socks after having them on but half an hour.

Prescribed :

℞. Chloral hydrat........ .... ʒ vi.
Spts. vini .... ℥ v.
Aquæ......................... ℥ iij.

M. S.—Bathe the feet thoroughly in hot castile soap-suds, wipe dry, and apply, with a sponge, the solution and put on the stockings while feet are yet wet.

To be applied thrice daily. Patient told to come again in one week.

August 11th.—Patient returned. The edges of the white, puffy skin are loosening and the stench is not so bad. Continue the treatment and return in one week.

August 18, 1879.—Patient returned. Brought the soles of both feet done up in a paper. Reported that "they came off the 16th, when he took off his socks." Healthy skin all over the bottoms of the feet and no stench of account. The sweating nearly stopped. He thought the solution most too strong, as it smarted him. Diluted with one-third water. Continue the treatment and report soon.

August 30th.—Patient walked to my office a distance of one-half mile. Said, "Could not have done that six weeks ago to save his life." Gave him some more of the preparation as weakened. Told to use until skin became tough. I have seen the lad recently, and he has never had any recurrence to present date, October, 1880.

Nerve-Stretching for the Cure of Lumbago and Sciatica without any Cutting Operation.—Dr. James M'Craith, of Smyrna, writes to the *British Medical Journal* upon the above topic : "I have had," he says, "very lately an attack of lumbago, for the first time in my life. A patient of mine, whom I could not go to see came to my house and volunteered to cure me, assuring me he had cured, almost instantaneously, several people suffering in the same manner as I then was, by kneading and pressing very hard the parts affected. He placed me on my face and hands on the sofa, and kneaded the painful parts very forcibly for some time, and then he said : 'I don't hear the cric-cric which I always hear when I succeed at once, so I fear I shall not succeed with you.' This is evidently the sensation of 'adhesions giving away,' as described by Dr. Bramwell, when the cure is satisfactory. I have known of cases of torticollis getting suddenly well, also of pain in the shoulder, on some violent movement being made. These are evidently cases of 'nerve-stretching,' and I think we have got at the true scientific explanation of the success of the popular proceeding in those cases ; and with the distinct object of 'stretching the nerve' and 'breaking up the existing adhesions,' we may adopt with advantage, and much greater chance of success, this popular method. In severe cases, chloroform may have to be used, as the kneading is painful."

A Change from Hypermetropia to Myopia, in the eyes of four persons, is recorded by Dr. S. D. Risley (*Am. Jour. of Medical Sciences*). The cases were under his care all the time. The change took place in two cases within two years. The ages of the patients varies from nine to twenty-eight.

Milk Diet and Rectal Accumulation.—Dr. D. W. Niles, of Worcester, Mass., calls attention to a peculiar tenacious pultaceous fæcal accumulation in the rectum as a result of continuous milk diet. In a case to which particular reference is made, the mass could only be dislodged from the rectum by mechanical means. Milk diet tried upon a perfectly healthy individual for forty-eight hours, caused the same kind of accumulation within the rectum.

A Novel Treatment of Hydrophobia is related by a correspondent of *The Lancet* as being practised in certain rural districts of England. A boy was bitten by a dog and severely lacerated on the face. There were three deep cuts, one requiring a stitch. In order to preserve the boy from any possibility of contagion, the friends adopted the following procedure : They wiped all the saliva they could get out of the dog's mouth, rubbed this well into the cuts, and then shot the dog. It is a common belief among the district where this occurred, that such a procedure will infallibly prevent the bitten person from going mad.

Double Gestation.—A case of double gestation is reported by Dr. P. J. Murphy in the *Obstetric Gazette.* The patient, a young married woman, had one child four years before. The last pregnancy was attended with no unusual symptoms except some œdema of the legs. Labor came on regularly and a child was born, weighing about four pounds. It was very weak, and evidently not more than eight months old. About twenty minutes after its birth a four months fœtus was delivered. There was a separate placenta to each fœtus. The patient made a good recovery. Twins had "run in the family."

Dr. Austin Flint, Jr., has declined an invitation to accept the Chair of Physiology in the Jefferson Medical College of Philadelphia. The Bellevue Hospital Medical College is to be congratulated on this decision. But we wonder what Philadelphia had to offer which New York has not—outside of Dr. Buchanan.

The Night Medical Service.—Sanitary Inspector Ewing, executive officer of the Night Medical Service, presented to the Board of Health a report of the operations of the service from the 5th to the 30th ult., during which period there were 27 visits paid by 15 different physicians. In one case the patient died before the arrival of the physician. Of the 27 patients, 3 paid the fee for the physicians visits. Dr. Ewing reported that he had investigated the majority of these calls, and found them, without exception, cases of sudden illness or emergencies occurring in the night-time among the poor, and there appears to be no attempt on the part of any one to take undue advantage of the charity.

Original Communications.

SOME OF THE UNSETTLED QUESTIONS CONCERNING NASAL CATARRH.

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[Read before the New York Academy of Medicine, October 21, 1880.]

Mr. President and Gentlemen of the Academy of Medicine:

I HAVE designedly announced my subject as "Some of the Unsettled Questions Concerning Nasal Catarrh," with the object of bringing before you certain conclusions which an exceptional experience in dealing with this troublesome disease has led me to adopt; and also that I might elicit a discussion which it is my hope may serve somewhat to throw more light upon the subject, and place on a better footing some of these vexatious questions.

The main points which I desire to discuss are: first, What is nasal catarrh? second, What are its tendencies? third, How can we treat it? and fourth, Can we cure it?

The first question that we have to decide is, What is nasal catarrh?

If we glance over the literature of the subject, we meet with a host of names which in their multitude certainly add nothing to the clearness of our nomenclature of diseases. Among these I might mention naso-pharyngeal catarrh, post-nasal catarrh, chronic pharyngitis, retro-pharyngeal catarrh, glandular hypertrophy of the vault of the pharynx, adenoma of the vault of the pharynx, clergyman's sore throat, follicular pharyngitis, hypertrophic nasal catarrh, nasal stenosis, infiltration of the septum of the nares, etc. I may have omitted some, but these are all that occur to me. There is but one disease embraced under all these names, and it is nasal catarrh, and I prefer to retain the old name, not only out of deference to a very ancient usage, but also from the fact that it defines the disease more simply and quite as completely as any other.

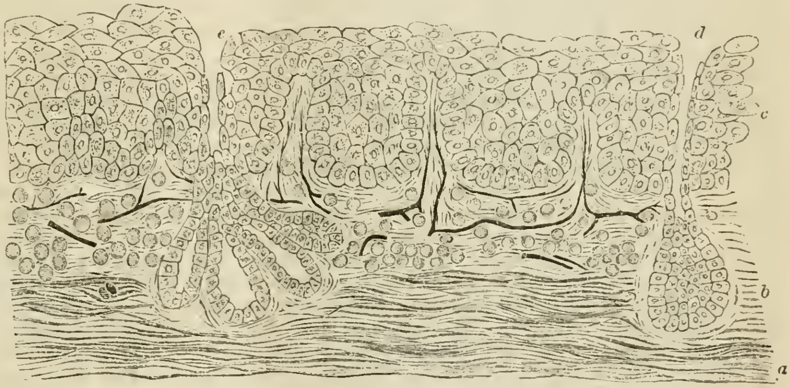

Fig. 1.—Section of a mucous membrane: *a*, submucous layer of connective tissue: *b*, mucous membrane proper, containing blood-vessels, nerves, closed follicles, connective and elastic tissue fibres, and marked by villi; *c*, epithelial layer; *d*, simple follicle; *e*, racemose gland.

The question arises, first, what region is involved in the disease. If we glance at a sectional diagram of the head, it will be seen that the border of the soft palate marks the boundary line between two avenues of the upper air-passages which are totally distinct and separate, both as regards their functions and the influence of their surroundings. In that portion below the border of the palate we have a region which is being constantly impinged upon and swept by the passage of food and drink, the result of which is necessarily that an accumulation of mucus is prevented, the surface of the membrane is kept comparatively clean, and the mouths of the follicles are kept open. On the other hand, we find that the region which is above the border of the soft palate is subjected to entirely different influences. It is traversed by the current of air in respiration, and virtually nothing more. It of course is endowed with certain functions in phonation, and is also the organ of the sense of smell; but in this respect, for the present, it does not concern us. It is lined with a mucous membrane richly endowed with glands, and there is constantly going on a secretion of mucus, together with an evolution of epithelium in the process of growth. Nature has provided but one method by which this accumulation is gotten rid of; the epithelial cells are endowed with ciliæ, by which the mucus and worn-out epithelium are carried toward the outlets of the passage.

The essential difference between the two regions, therefore, lies in the fact that the lower pharynx is constantly traversed and impinged upon by solids and fluids, while the upper passage is only traversed by the current of air in respiration. Hence the lower region is kept comparatively clear of accumulations, while in the upper region the mucus secreted, and the worn-out epithelium tend to accumulate in the sinuous passages, and remain in contact with its lining membrane. Especially is this true if, as the result of chronic inflammation, the ciliæ with which the epithelial coat of the membrane is endowed be destroyed. As the result, therefore, of this marked difference of function and environment, it seems to me a fair conclusion that the true boundary line between these two regions should be drawn at the border of the palate.

Now, anatomy teaches that the nasal cavities extend from the nostrils, anteriorly to the two oval openings of the posterior nares, where they open into the pharynx; and that the pharynx is that cavity which extends from the basilar process of the occipital bone to the entrance into the larynx and œsophagus. As the result of this anatomical division, and based upon it, we have a classification of diseased conditions which is utterly confusing. The point, then, which I would make first, is, that whatever the anatomical division may be, the true nasal cavity is the one I have described, and extends from the nostril to the border of the soft palate, and includes what we usually call the vault of the pharynx. This division is justified by the physiological division of the parts, as I have said; furthermore, and more prominently still, it is the division which, from a pathological point of view, must be made; for it is this whole region which is affected in the disease we are discussing. Nasal catarrh, therefore, is a chronic inflammation of the mucous membrane lining that portion of the upper air-passages, which extends from the nostrils anteriorly, to the posterior border of the soft palate.

The next point which presents is, What is the character of the morbid process which constitutes the disease? In Fig. 1 there is shown a section of a mucous membrane. There will be noticed the three layers of which it is composed: a basement layer of connective tissue, a middle layer, composed of fibrous and elastic tissue, muscular fibres, blood-vessels, rounded, closed follicles, and simple and racemose follicles, whose ducts pass through the superficial epithelial layer, and open on the surface of the membrane. This layer is marked by minute projections, or villi. The superficial layer is composed of epithelial cells, displayed in a number of layers one upon the other. Now, when a mucous membrane is acutely inflamed, what takes place is briefly as follows: the blood-vessels become distended with blood, enlarged and tortuous; the white corpuscles accumulate at the sides of the vessels, and finally pass through the vascular wall, carrying with them a certain amount of liquor sanguinis. These escaped white blood-corpuscles constitute the so-called leucocytes or amœboid corpuscles. In connection with this, and probably as the result of it, the normal processes of the membranes are stimulated to great nutritive activity. The rounded cells in the mucous membrane proper are proliferated, new epithelial cells are generated, the glands pour out their mucus, and all the normal processes of growth and secretion become enormously exaggerated. This constitutes the acute inflammatory process. Now, in a chronic inflammation, virtually the only difference we recognize is that the hyperæmia of the membrane subsides, but all the exaggerated nutritive processes go on. There is excessive cell-proliferation, there is abnormal secretion, and there is poured out from the surface of the membrane an excessive secretion, which is more or less charged with young, unripe cells, constituting a mucus or muco-purulent discharge, according as the cell-proliferation is active and the secretions become charged with the young cells and worn-out epithelium. Applying this, now, to the membrane lining the nose. As this chronic morbid process goes on we find that it undergoes a form of genuine hyperplasia. Its meshes become infiltrated with these young cells, new connective tissue and elastic tissue fibres are developed, while, at the same time, the superficial or epithelial layer becomes piled up and thickened by the development from beneath of the new epithelial cells, the result of the morbid activity; and we have the whole membrane, in process of time, becoming markedly thickened or hypertrophied. while, at the same time, the secreting organs are pouring out their excessive mucus or muco-purulent discharge.

Now, if we glance at the plate again we will understand how this abnormal deposit of neoplastic tissue in the membrane may, to a certain extent as the result of mere adventitious circumstances, result in one or the other of two very distinct conditions. If the secretory organs of the membrane undergo the same hypertrophy as the other portion of the membrane, we have a genuine hypertrophy of the mucous membrane, characterized prominently by thickening, together with an excessive secretion. If, on the other hand, we have the adventitious results of the morbid process so distributed in the membrane as to encroach upon its glandular structure we may have an entirely different condition resulting. The glands gradually succumb to the pressure upon them, their activity is destroyed, and they undergo atrophy. The membrane, therefore, becomes deprived of its supply of normal mucus, and we have a dry catarrh.

We thus have the explanation of the first division we are compelled to make in the classification of nasal catarrh. In the first variety we have a hypertrophy of the membrane lining the nasal cavity, resulting in a nasal catarrh whose prominent symptoms are excess of secretion with narrowing of the nasal passages. The natural tendency of all nasal secretion is toward the fauces; this is increased by the disposition to constantly draw or snuff back through the nose. The mucus, therefore, accumulates in the upper pharynx, or is drawn down into the fauces and lodges between the palate and wall of the pharynx, giving rise to the feeling of a mass or plug in that region, which is attempted to be dislodged by that disagreeable nasal screatus with which we are familiar. That the main source of the excessive mucus discharge in nasal catarrh is the nasal cavity proper I have repeatedly verified, by arresting it by means of remedies applied to the turbinated bones. If the secretion is excessive there is liable to be the constant dropping in the throat of which patients so often complain.

As a further result of this thickening of the membrane of the nose we have the normal breathing space narrowed—nasal respiration is interfered with. This becomes a source of extreme discomfort to the sufferer, and also compels him to breathe through the mouth. The long-continued action of respiration carried on habitually through the mouth is a prolific source of catarrhal inflammation of the lower pharynx and larynx. Of this fact I think there can be little doubt. This is very well illustrated in the case of a mild acute inflammation in the larynx. Those of us who have suffered from a subacute laryngitis or pharyngitis will recall the effect of a long inspiration through the mouth, giving rise to marked irritation of the parts with oftentimes an attack of coughing. The explanation of this, of course, is familiar to all. The current of inspired air passing over the blood-warm, moist, and sinuous passages of the nose becomes warmed, moistened, and cleansed in its passage. This does not take place in its passage through the mouth, hence it becomes to an extent irritating to the lining membrane of the larynx and pharynx. This deleterious action of breathing through the mouth, which is compelled by nasal stenosis, explains the frequency with which the throat symptoms in nasal catarrh are complained of by patients, while the nasal disease is, to an extent, overlooked.

This hypertrophic form of nasal catarrh is the one with which we have to deal in the very large majority of cases; and is the one concerning which what I have to say to night relates in the main.

A few words, however, will suffice to explain how the other form of the disease may arise from pathological changes, which are mainly identical in the two forms of the disease.

The essential pathological change in the membrane is a deposit in its meshes of newly developed cells and fibres.

Now, in that form of the disease in which the newly deposited material encroaches upon the glandular structures, we find that their activity is to an extent destroyed, and the membrane is robbed of its normal supply of mucus.

There is, therefore, poured out on its surface a thick mucus which is deficient in its watery constituents, and hence it dries rapidly, forming a thin crust or mass, which adheres closely to the parts beneath. There is thus formed a pellicle upon the membrane covering it and extending over the convexity of the turbinated bones and into the sinuous passages. This pellicle dries under the influence of the current of air passing over it, but it protects the parts beneath, forming, as it does, a complete air-tight shield. Secretion goes on beneath it nevertheless, and this secretion is not deprived of its moisture by the current of air, for the air does not reach it. The secretions are imprisoned, undergo degeneration, and become fetid and offensive. There is now a purulent discharge established—a discharge which in many cases is almost pure fluid pus. This, I am disposed to think, in many cases serves to infect the membrane as it were, and excites a still further purulent discharge, whose source is largely in the epithelial layer. As this purulent discharge is poured out, the dried pellicle is lifted from the membrane, but the loss of moisture still going on, we have built up those thick, offensive, fetid masses, or crusts, which are dislodged with so much difficulty, and which render this form of the disease so distressing in the intolerable stench which often attends it.

We thus have accounted for the two forms of nasal catarrh by virtually the same pathological change in the onset of the process. These two forms virtually comprise the whole subject. Excluding, of course, syphilis with its attendant ulceration and necrosis; and disease of the accessory cavities, as of the antrum of Highmore, and the frontal sinuses, which constitutes true ozæna, both of which are diseases entirely different from true nasal catarrh.

In this connection it might be mentioned that ulceration in the nasal cavity is not a symptom of nasal catarrh. I have never seen it except in syphilis, scrofula, or some of the blood poisons. With the exception above noted, then, all forms of nasal catarrh may be embraced under the two heads above described. Hypertrophic catarrh, with excess of secretion and narrowing of the passages, and atrophic catarrh, with its resultant fetid discharges. This latter form of the disease I do not propose to further discuss in the necessarily limited province of this paper. The hypertrophic form of the disease, as before stated, is the one which presents for treatment in the large majority of cases, and is the one which will be the subject of what remains to be said.

Another question which may be briefly noticed in this connection is the cause of nasal catarrh; and first, Is there a catarrhal diathesis? We have already the tuberculous, strumous, rachitic, gouty, rheumatic, dartrous, neurotic, and possibly other diatheses. Shall we add, also, a catarrhal diathesis? It seems to me that those already mentioned have done mischief enough with their confusing and discouraging tendencies. A catarrhal diathesis does not exist. The disease is purely a local one. It occurs at all ages, in both sexes, and in all conditions of birth, color, and social position. It occurs in persons otherwise in the enjoyment of perfect health, and does not seem to be aggravated by an impairment of the general health from intercurrent causes. It occurs in one member of a family to the exclusion of others, and is not hereditary. It may involve one or both nasal cavities, but is often more marked on one side than the other. It occurs in men more frequently than in women, simply because men are more exposed than women. The true explanation of the very great prevalence of the disease may be stated as follows: The upper air-passages, owing to their exposed situation, are extremely liable to take on a mild morbid condition. This is due entirely to the fact that they are exposed to the first ingress of the inspired air, with its varying temperature, humidity, and purity. From its dampness or from its containing particles of dust, irritating vapors, and other deleterious matter, the air we breathe serves to irritate the upper passages, and causes a mild chronic inflammation. As the result of this, the liability to take cold ensues. These attacks serve to aggravate the chronic condition. As months or even years go on there results a chronic catarrh.

It may result from measles or scarlatina, simply because those diseases are attended with an acute coryza, which, from its protracted course, undergoes incomplete resolution, and lapses into the chronic process.

It should be further added that it is essentially a disease of those climates which are characterized by frequent and rapid changes in temperature and great humidity, while in the drier and more equable climate of the tropics it does not prevail to the same extent.

The next question for consideration is, What are the tendencies of nasal catarrh? As already intimated, one of the direct results of the disease in the nasal cavity is the development of a catarrhal inflammation in the pharynx and larynx. This was explained as being due to the deleterious influence of respiration carried on habitually through the mouth, this mode of breathing having become a necessity as the result of the nasal obstruction. This tendency is still further aggravated by the secretions from the nose and upper pharynx passing down the pharyngeal wall, and finally making their way into the laryngeal cavity, where they necessarily act to cause a morbid condition.

Whether there is direct extension of the inflammatory process from the nares to the lower pharynx and larynx I think is very doubtful.

We have then established a chronic inflammation of these organs. The existence of the chronic morbid condition entails an especial liability to take cold from slight provocation,—the so-called liability to take cold I believe in every case to mean that there already exists a mild chronic inflammation, which takes on a renewed activity from a slight exciting cause. As the result of these repeated attacks of acute inflammation, the chronic morbid process becomes aggravated. Each fresh attack undergoes less perfect resolution. Furthermore, as these attacks recur, there is a disposition to their extension farther toward the lungs. Eventually, there sets in a bronchitis, with persistent and troublesome cough. The repeated colds recur with greater frequency, and resolution becomes more protracted and less perfect. The sequence of events, then, is a nasal catarrh, a pharyngitis, a laryngitis, a tracheitis, and finally a bronchitis. That this is a frequent sequence of events, when we consider the very great prevalence of nasal catarrh, I do not of course assert, but that it is a not uncommon occurrence I do not think can be controverted. A nasal catarrh, then, I think we may safely regard as a menace, if nothing more, to the air-passages farther down.

We are frequently asked the question, as physicians, by those suffering from a nasal catarrh, will the catarrh extend to the lungs? I do not think we are justified in answering No to the question. I believe that it is the tendency of the disease in many cases, and that we should say so. That a given case will necessarily develop into pulmonary disease, of course, cannot be said. That it is a not improbable danger is certainly true.

Aside from any danger that menaces the lungs in the existence of a nasal catarrh, that a chronic laryngeal catarrh arises in a large proportion of cases as the result of the nasal disease cannot be questioned, and this becomes a matter of no little gravity in those who may be dependent on the healthful condition of the vocal apparatus.

We come now to the consideration of by far the most important question which presents itself in connection with the disease, viz., the treatment. The disease, as we have found, consists essentially in a true hypertrophy of the mucous membrane. In connection with the hypertrophy there is abnormal secretion. The two symptoms are virtually one as regards measures of treatment. The removal of the thickened membrane removes the source of the discharge. Hence there is no good reason for discussing separately, measures for the relief of one or the other of these symptoms.

When the nasal douche of Weber or Thudichum was first suggested it was thought that in this rather ingenious device we were finally to be put in possession of a mode of treatment which would enable us to cope successfully with nasal catarrh. I need not say that the douche has proved a most signal failure in accomplishing more than a moderate degree of relief to the more prominent features of the disease.

The stream which enters one nostril passes around the septum and makes its escape through the other nostril. It traverses the passages in a slow and sluggish manner, bathing the lower passage and turbinated bone. That the fluid mounts higher than the middle meatus is questionable. It fails then to thoroughly reach all the parts; it fails to completely cleanse the membrane of its accumulation of mucus; and it exercises but a moderate amount of influence on the diseased tissue. It does nothing more then than to relieve in a moderate degree the subjective symptoms of the disease.

Nearly thirty years ago the idea of making local application to the air-passages of fluids in a state of fine atomization was first carried into practice. The methods by which this was accomplished were at first somewhat rude, but the introduction subsequently of the principle of Lewin, and later, that of Bergson, have placed in our hands instruments for the atomization of fluids and for applying them to such parts as we may desire, which are everything that could be wished. The nasal douche failed, and the principle of atomization was received with an enthusiasm which led to the expectation of great results from its use. The atomizer enables us to make application of medicated fluids to the nasal cavities in such a manner that there can be no doubt that every portion of the membrane is reached and acted upon. In this it is undoubtedly a more valuable device than the douche.

We have used the sprays now for over twenty years, and we should be able to say with considerable definiteness how far they have justified the early expectations.

By their use the morbid activity of the inflamed mucous membrane is to an extent controlled, the secretion is lessened, and, if the case be a mild one, the disease may be arrested. But in the more aggravated cases, attended with a considerable degree of thickening of the membrane, the best that can be expected from the use of sprays is that the disease may be to an extent deprived of its more troublesome symptoms. A permanent cure is, as a rule, not accomplished, the disease generally returning, sooner or later, in as aggravated a form as before.

The method of treating nasal catarrh, then, by the sprays we must also regard as, to an extent, a failure. In the use of the douche and the spray, then, we have exhausted our most ingenious methods of managing this disease by means of topical medication.

I do not propose to enter upon the discussion of the use of powders. What is said as to the efficacy of sprays applies equally well to the use of powders. On the one hand we have a topical agent diluted in water diffused through the nasal cavity by means of an atomizer. On the other hand it may be equally diffused by the insufflator, but reduced by a neutral powder.

The devices alluded to failing us, then comes the final alternative of resorting to some destructive agent, by means of which the hypertrophied membrane may be ablated.

For some years there has been a growing conviction on the part of those who come in contact largely with throat diseases, that topical agents fail to accomplish all that should be accomplished in these cases, and, furthermore, that in the use of destructive agents lies the only plan of treatment which will enable us to cope, with any hope of success, with a large proportion of cases of nasal catarrh. Whether this conclusion is the true one or not I do not propose to discuss. It is a conviction which I have arrived at after a considerable experience, both in private and dispensary practice, of the frequent inefficacy of the simpler plan of treatment, and one to which an every-day experience is adding strength.

I shall therefore simply add some brief considerations in regard to the various means by which these destructive measures may be carried out.

I show here (Fig. 2) a pair of forceps with long, tapering blades, toothed in their whole length, which have been designed for the purpose of seizing the hypertrophied tissue, and partially cutting and partially tearing and wrenching it away. The operation is a bloody one, and terribly painful; it furthermore bruises and injures the healthy tissues, often to an unjustifiable extent. I have never felt myself warranted in resorting to the use of this instrument.

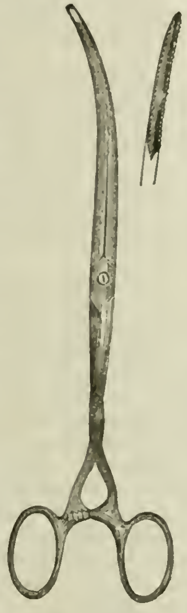

FIG. 2.—Robinson's forceps for the evulsion of the mucous membrane over the turbinated bone.

Chemical agents for the accomplishment of this purpose are often resorted to. Of these I shall refer briefly to nitrate of silver, nitric acid, chromic acid, and acetic acid.

There are few agents of greater value than nitrate of silver, if properly used, and few that have been more abused by improper use. It is an escharotic of undoubted activity, but it also possesses another property which is too often overlooked. It is a very powerful stimulant. Hence, in its use, while it may destroy the superficial layer of the membrane in the disease we are considering, it also stimulates the morbid processes in the deeper layer to such renewed activity that there results a morbid action there, which fully, if not more than counterbalances all that has been accomplished by the superficial cauterization. This remedy, then, I should decidedly condemn for the purpose of destroying the hypertrophic tissue in nasal catarrh. I recall with some satisfaction that in the past three years I have rarely made use of nitrate of silver of a strength greater than twenty grains to the ounce as a topical agent, with the sole exception of the use of the solid stick, in destroying mucous patches.

In nitric acid we have a powerful escharotic not open to the objection made to the nitrate of silver. It is an efficient destructive agent, possessing no marked stimulating qualities, but there lies the difficulty of controlling and limiting its action. This objection has been largely overcome by the ingenious little device of Dr. A. H. Smith, of this city (Fig. 3). This consists of a hard-rubber tube containing an oval fenestrum. This is passed into the nasal cavity until the part which it is desired to cauterize pouches into the fenestrum. A slender probe, wrapped with a pledget of cotton, is dipped in the acid and passed into the tube to the opening. The action of the acid is thus confined to that portion alone of the mucous membrane which lies against the opening in the canula. We possess no better means of using so powerful an escharotic as nitric acid. The only objection that would remain against the use of nitric acid is that it erodes deeply, and that a troublesome ulcerative process may be established, which may become a source of annoyance by delayed healing.

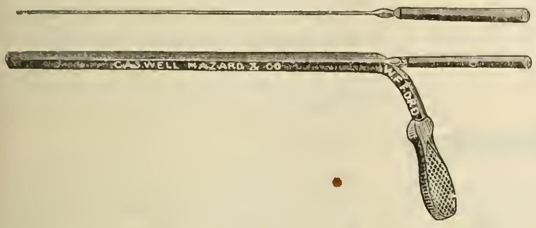

FIG. 3.—Smith's canula for applying nitric acid to the nasal mucous membrane.

Chromic acid presents in its acicular crystals an extremely convenient form of application, and is also an efficient escharotic. I am disposed to think it possesses many of the advantages of nitric acid and none of its disadvantages. I have, however, made such limited use of this remedy that I cannot speak of its virtues. Of all the chemical agents for cauterization my preference is very decided in favor of the glacial acetic acid. I have for nearly a year made frequent and increasing use of this agent, and I am rarely disappointed of excellent results. It is mild and yet efficient in its action. It possesses no marked stimulating qualities, and it not only serves to destroy the superficial layer of the hypertrophied membrane, but by its absorption it seems to exercise a marked controlling influence on the morbid activity of the chronic inflammatory action in the deeper layer of the membrane.

When first applied it occasionally seems to cause some irritation, as the result of which the membrane swells up, and the patient suffers for a few hours or a day with many of the symptoms of an ordinary cold in the head. This, however, subsides very soon, and there is soon voided shreddy masses much resembling a croupous membrane, after which there is a marked amelioration of all the symptoms.

I show here (Fig. 4) a small flattened and bent probe, by the use of which the acid is very efficiently applied. This probe is wrapped with a pledget of cotton, and then the acid is taken up on another probe and dropped on the side of the wrapped probe until that side is fully charged. It will be found then that the acid is confined to one side of the probe, and that in passing it into the nares the septum is not touched by the escharotic. Of course, the acid is placed on that side of the probe which will come in contact with the turbinated bone of the side it is desired to medicate. After the probe is charged it is swept rapidly through the nasal passage in such a manner that the face of the turbinated bone is touched in its whole length. This may be repeated for the middle turbinated bone if that is diseased. The application is, of course, extremely painful, but this may be instantly relieved by throwing in immediately, by means of the atomizer, a small amount of the following:

℞. Acidi carbolici........ gr. j.
Sodæ biborat.,
Sodæ bicarb........āā gr. ij.
Glycerin.............. ʒ j.
Aquæ..............ad ℥ j.
M. (Dobell).

This application should be made at intervals of one week, which may be increased as the disease succumbs to treatment, until two or even three weeks may be allowed to elapse between the applications I desire to speak with some positiveness concerning the use of the acetic acid, as the results which have attended its use, in my hands, have been uniformly favorable. As a rule, the irritation caused by it is but momentary, and passes away before the patient leaves the office, and the sense of relief follows immediately and continues. I should add that a patient ought not be allowed to leave the office until all irritation which has resulted from the treatment has been subdued. This can always be accomplished by the use of the solution given above, it being sprayed repeatedly into the cavity until the parts are made entirely comfortable. If this fails to relieve, a small amount of solution of morphia, grs. viij. to ℥ j., may be thrown into the cavity.

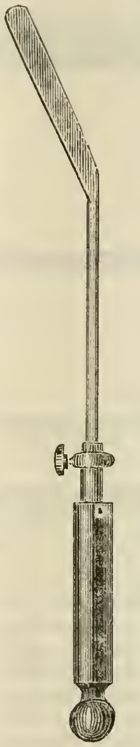

FIG. 4.—Probe for applying acetic acid to the nasal mucous membrane.

As before stated, the acetic acid is not a powerful escharotic, and many cases of nasal catarrh occur in which a more active method of destruction of the membrane will be demanded.

In these cases in which the hypertrophic membrane is largely developed, and in which the nasal cavity is much encroached upon, I know of no more efficient method of dealing with the disease than we possess in the use of the galvano-cautery.

The serious objection to its use is that it is not only a somewhat cumbrous affair, but it is an expensive instrument. Moreover, its use is attended with an amount of preparation and detail which renders this method of treatment oftentimes somewhat irksome. It is, however, an extremely valuable aid in managing the aggravated cases of catarrh.

I show a set of instruments which I have had constructed for my own use to fulfil the requirements of a light, easily manipulated handle, and an electrode mounted at such an angle as will still further facilitate the ease of manipulation, and also mounted in such a way as will enable the operator to follow by ocular inspection the movements of the heated wire, As will be seen, the circuit closer is immediately under the thumb when the instrument is held in the hand, and the current can be closed or opened at will. The electrode, mounted in the handle, has a vertical blade for cauterizing the face of the hypertrophied tissues.

When the thickened mass presents a rounded bulging tumor anteriorly, I find that more can be accomplished by making a linear incision along its face, cutting well down to the vascular layer of the membrane. The result of this is a cicatrix, which, in its contraction, reduces the mass far more than occurs from the superficial burning. The instrument by which this is done is shown at *a*. As will be seen, the cutting blade occupies but one side of the electrode, and is on a horizontal plane.

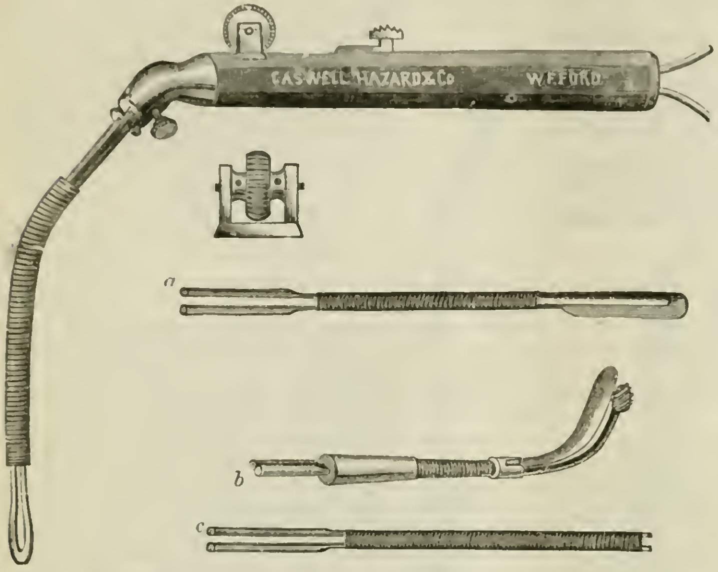

Fig. 5.—The writer's galvano-cautery instruments: *a*, knife for cutting laterally; *b*, electrode for cauterizing the pharyngeal vault; *c*, ecraseur.

In making these applications to the turbinated bone it is well that there should be some protection afforded to the septum. I know of no better device for this purpose than the little instrument shown in Fig. 6, devised by Dr. Shurley, of Detroit. As will be seen, it consists of an adjustable speculum, to one blade of which is fitted a movable slide. When the instrument is introduced, the ivory slide is passed into the cavity, and lying along the septum, affords a perfect protection to it from the heated electrode. Of course a different instrument is required for each nostril. For making application to the vault of the pharynx, the difficulty generally met with is in managing the soft palate, which lifts itself up, and of course is in danger of being burned by contact with the electrode. This may be obviated by tying the palate after the manner of Wales, or as demonstrated by myself last winter before the Academy. This, of course, consumes time, and is not always agreeable to the patient. I have devised the electrode shown in Fig. 6, for making this application without the necessity of tying the palate. As will be seen, it consists of a spiral wire, mounted at the proper curve for reaching the pharyngeal vault; over this there is fitted a hard-rubber hood. When the instrument is passed to the point at which it is desired to cauterize, it is pressed against the part, and emerges from its hood, when the circuit may be closed and the part burned. Before removing it the circuit is broken, when it is easily withdrawn. The palate, during the manipulation, is perfectly protected and saved from any injury.

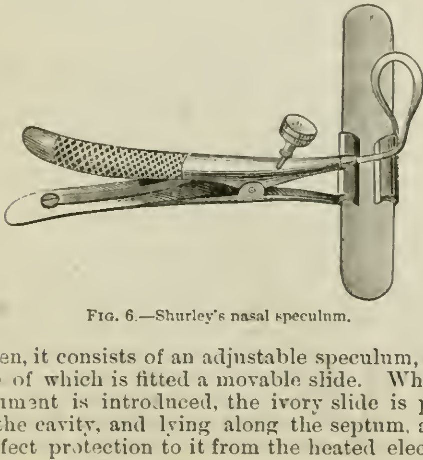

Fig. 6.—Shurley's nasal speculum.

In connection with this instrument there is shown a convenient little device for an ecraseur—Fig. 6, *c*. The double canula, being inserted in the handle, is fitted with a wire, which is wound upon a wheel, as shown in the cut mounted on the handle, and also in a separate figure in profile. The wheel fits in a slot on the handle, and can easily be removed when not used. This device is modified somewhat from that of Dr. Shurley.

In many cases of nasal catarrh there will be found a large sessile mass at the posterior termination of the lower turbinated bone. This may be so large at times as to almost completely fill the oval opening of the posterior nares. I show here (Fig. 7) a cut of a case from a drawing of Dr. Lefferts, which illustrates this not infrequent complication very graphically. This condition entails no little discomfort, and often distress, both from the occlusion of the nares, with interruption to nasal respiration, but also from the amount of secretion which arises from it. The methods of treatment alluded to are not competent to deal with this satisfactorily, as a rule.

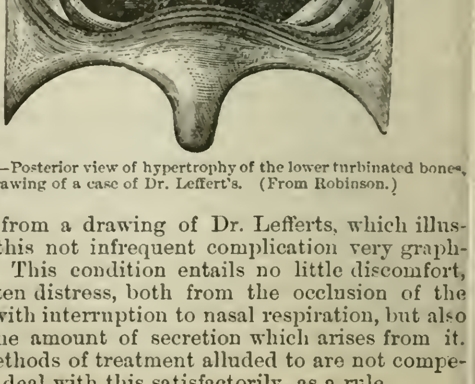

Fig. 7.—Posterior view of hypertrophy of the lower turbinated bones, from a drawing of a case of Dr. Leffert's. (From Robinson.)

The little instrument shown in Fig. 8 answers so perfect a purpose in removing these masses that it leaves nothing to be desired. It is the design of Dr. Jarvis, the assistant at the Bellevue Throat Clinic. It is an extremely simple form of wire ecraseur, and needs no description. Success in its use depends largely on the use of steel wire. The wire I always use is the No. 5 piano wire, which possesses a high degree of elasticity, together with a tensile strength which no tissue of the body can easily resist. I have, on several occasions, cut through dense fibrous tumors with this instrument.

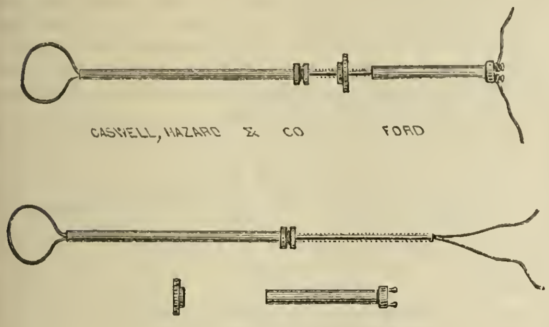

FIG. 8.—Jarvis's wire snare ecraseur.

In dealing with the condition above alluded to, the instrument is mounted with a loop, which an examination of the mass has shown to be sufficiently large to embrace it, and is then passed through the nares until the end of the loop passes the end of the turbinated bone, and is free in the upper pharynx. The loop having been bent slightly to one side before entering the nares will, by its own elasticity, slip over the mass, when it can be easily drawn into place and the tumefaction cut through. Of course there is considerable hemorrhage as the result of this, but if the operation be done slowly, a half hour or even an hour being consumed, it may often be done without loss of blood. If, however, hemorrhage does occur, a plug of absorbent cotton can easily be passed back and wedged between the cut surface and the septum, and allowed to remain until the following day, if necessary. The relief attending this operation is immediate and striking.

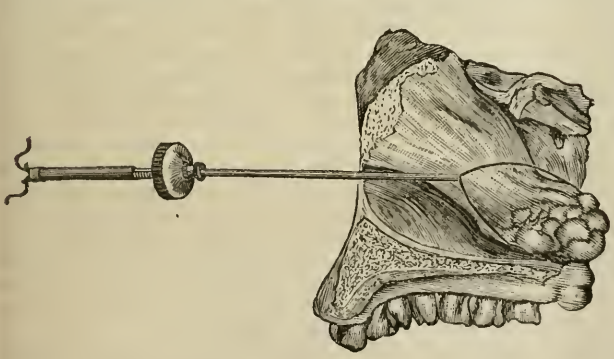

FIG. 9.—Lateral view of hypertrophy of the lower turbinated bone posteriorly, with snare in position.

The accompanying Fig. 9 gives a side view of this posterior hypertrophy. It is a drawing by Dr. Jarvis of a morbid specimen in his possession. There is also shown in the plate the snare in position for severing the mass.

A condition not unlike this at the posterior termination of the lower turbinated bone is frequently met with, though in a far less degree, at the anterior termination of the same bone. This consists in a rounded, puffy-looking mass, which encroaches on the lumen of the anterior nares, more or less completely filling it, and serving to obstruct materially the entrance of air.

A very simple device for removing this by means of the same snare ecrasure has been suggested by Dr. Jarvis. This consists of transfixing the mass from below upward and backward by a long, slender transfixion needle, mounted in a suitable handle. The loop of the snare is then passed over the handle of the needle, and subsequently over its point, when that portion of the mucous membrane which has been transfixed is cut through and removed. There is thus taken out a small mass about the size of a split pea. The cut surface heals kindly, and the result in my experience has been invariably to relieve the condition of stenosis. This, of course, accomplishes what the forceps does, but it does it in an almost painless manner, and with absolutely no bruising. The hemorrhage resulting is not great, and is easily controlled by a plug of cotton inserted for a few minutes.

It will be noticed that I have confined the subject of my remarks mainly to the nasal cavity proper, to the exclusion of the vault of the pharynx. As stated at the commencement of the paper, I regard the pharyngeal vault as a part of the nasal cavities. In nasal catarrh it undergoes the same changes which occur in the other portion of the passages. This consists in a true hyperplasia. In the pharyngeal vault, however, we find that there is an extremely rich distribution of glands, giving this part the name of the pharyngeal tonsil; hence we find that in this region the inflammatory process assumes a glandular character, and we have what, if it is of an aggravated form, is generally called adenoma of the vault of the pharynx. It is extremely rare, however, to meet with this condition developed to such an extent as to warrant the name. There is, as a rule, but a moderate glandular hypertrophy which occurs in connection with the hypertrophy extending throughout the nasal cavity. It is a mistake to suppose that this region is the source of a large amount of the secretion that characterizes nasal catarrh. The main source of the discharge is in the hypertrophied tissue over the turbinated bones, and the removal of this removes the prominent features of the disease. Still it will often become necessary to use measures directed to the pharyngeal vault, for this region is undoubtedly responsible for some of the untoward symptoms of the disease we are considering. I have already referred to the use of the galvano-cautery in this region. In my own experience we have no better method of coping with the disease there located.

To revert now somewhat and briefly. The use of the spray and douche were stated to be inefficient in more than controlling the disease. I should state that I invariably make use of the atomizer in all cases of nasal catarrh in my office work, and that I very frequently direct patients to use the douche at their homes.

The first step in all forms of treatment is the use of the carbolized alkaline fluid, the formula for which was given, to thoroughly cleanse the part of the accumulations of mucus. In addition to this I apply, by the same means, a mild astringent, such as tannin, gr. x.—xx. to ℥j., zinc. sulph., gr. x. to ℥j., potass. chlorat., ℈j. to ℥j., etc., in the order of preference. These measures are in most cases, however, only regarded as aids to the other measures already enumerated. The question arises as to which of the other measures to adopt in a given case. It is, of course, extremely difficult to formulate any rule for the selection of the special plan of treatment. If there is a mass at the posterior termination of the inferior turbinated bone, such as already described, and which will admit of or is sufficiently large to engage the snare, that instrument should be used. We possess no method of dealing with this condition comparable to it. If the mass anteriorly is large, rounded, and puffy, and occludes the nostril it should be transfixed and removed by the snare. It is a less painful and more efficient method than the cautery or the use of escharotics.

For those irregular and well-organized hypertrophies, which have existed for several years and which involve the continuity of the lower and middle turbinated bone, the galvano-cautery affords the best means of dealing with them.

If the disease has not existed for a long time, and the thickened tissues have not become hardened and dense by organization, the acetic acid will accomplish all that can be hoped for.

In milder cases, not characterized by any marked degree of hypertrophy, the use of atomized fluids will serve an excellent purpose. Unfortunately, these cases are not attended with any very prominent symptom, and they do not, as a rule, present for treatment.

The other remedies, such as chromic acid and nitric acid, I do not discuss further, for the reason that I have made but limited use of them, and in what I have said to-night I have endeavored to confine myself to personal experience.

Mention should be made before closing of one of the dangers which attends the use of any destructive agent in the nasal cavity; I refer to the danger of facial erysipelas. As we know, this disease may result from an apparent extension of an acute coryza. It is easy to understand, then, how any destructive agents used in the nasal cavity may be followed by the same unfortunate accident. The immediate result of the application of a caustic to the lining of the nasal cavities is to excite virtually an attack of acute coryza, with all the symptoms of that affection—such as intense congestion of the membrane, occlusion of the nares, profuse secretion, suffusion of the eyes, neuralgic pain, etc. This traumatic coryza would naturally tend to produce the facial erysipelas to a far greater extent than would the idiopathic coryza. The galvano-cautery is most at fault in this direction; next to this I should rank nitrate of silver, and then the nitric acid. Acetic acid, as far as I know, manifests no tendency in causing this accident. The only suggestion I can make in regard to the prevention of this accident is, that too much should not be attempted at one sitting, and that the cautery, if it be used, should not be allowed to remain in the cavity more than a few seconds at a time, and that the nares should be flooded with the douche or spray of the carbolized alkaline solution as soon as possible after the withdrawal of the cautery electrode or the escharotic.

There remains but one more unsettled question to which allusion should be made, and that is, can we cure nasal catarrh? This is an extremely difficult question to answer. I do not believe any physician, I care not what his abilities may be, or how much wisdom or skill his experience in the management of these cases may have endowed him with, is justified in promising to cure any given case of nasal catarrh of long standing; and by a cure I mean a genuine, complete, and permanent removal of all the symptoms. Many of us have cured cases of this disease, and as our experiences enlarge, as our special skill becomes better established, as our means of diagnosis extend, we will cure a still larger proportion of cases. But the ability to cure any given case involves the ability to cure all cases, and that we cannot do; and it reflects no credit upon our candor and conscientiousness if we promise to do what we know we are not safe in undertaking.

If, however, we bring to bear on each case all the means of diagnosis which are at present within our power, and doing away with that conception of nasal catarrh which regards it as an entity to be managed in a routine manner, but rather regarding it as a group of divers symptoms and conditions, each one of which is to be dealt with in a rational way, I believe that a large proportion of cases will become amenable to treatment, and most, permanently cured. That the same conditions which gave rise to the disease originally may not operate to induce a recurrence eventually of some of the symptoms, it is not safe to say; but that they need return in the full force of the original disease need not, as a rule, be expected.

In regard, then, to the question of the curability, I do not hesitate in making the assertion, and I make it advisedly: with our present means of diagnosis and knowledge of therapeutic resources in nasal catarrh, we can permanently remove most of the features of the disease which render it a present source of discomfort, and all those that constitute it a source of danger to the more vital portions of the respiratory tract.

Before closing, I should like to add one word in regard to our means of examination for the purpose of diagnosis. From what has been said, it will be easily inferred that I regard as of the first importance a thorough exploration of the nasal cavity, and the recognition of the special morbid condition which characterizes every portion of the mucous lining.

The early history of laryngoscopy was marked by the invention of what their inventors were pleased to call laryngoscopes. The one which has gained the widest notoriety is that known as Tobold's. This instrument is constructed on certain optical principles, I take it, known only to the inventor. I never have been able to detect them. I mention this instrument as one of a class, and to illustrate this point: no arrangement of lenses or reflectors is capable of increasing the rays of light. The concave reflecting mirror converges the rays and produces a disc of light more intense only so far as its area is less than that of the flame which is the source of the light. In its passage through lenses and reflection by mirrors much of the light, on the contrary, is lost. We are too apt to think that, having furnished our offices with a Tobold, our outfit is complete, and our means of diagnosis cannot be improved upon.

The head-mirror is preferable to all the laryngoscopes that were ever invented, and should always be used when feasible, while among the poorer methods of examination I should reckon Tobold's apparatus.

The head-mirror and the rays of the sun give such a perfect illumination that no portion of the nasal cavity need escape inspection by their use, and we should not lose the great advantages of this method of examination by resorting to the use of the so-called laryngoscopes.

It seems to me, oftentimes, that the eagerness with which we seize upon new ideas is something of a commentary on the still incompleteness of our art as physicians, and that our readiness to take up the newly-advanced and novel methods is only equalled by the tardiness and, oftentimes, almost sadness with which we lay them away with the other failures in medicine. The introduction of laryngoscopy has made prominent a number of co-ordinate new methods, among which are the spray, the douche, and the various illuminating devices. We may not really lay them away with the same regret that has followed many of their predecessors, but we will necessarily be compelled to abandon much of the hope with which they were first received.

REPORT OF CASES OF PHTHISIS

TREATED AT AIKEN, S. C., DURING THE SEASON 1879–80.

BY W. H. GEDDINGS, M.D.,

AIKEN, S. C.

(Continued from MEDICAL RECORD, October 30, 1880, p. 489.)

Case XLVIII.—Male, thirty-two years. (Dr. Forney, of Georgetown, D. C.) Mother died of phthisis. Patient began to cough in October, 1879, having had vague pains in the chest for some time previously. Lost twenty-five pounds.

January 29th.—Very pale, cheek bones prominent; great emaciation; pulse, 120; temperature, 100.5°. On the right side diminished resonance over the upper portion of the lung, from clavicle to the fifth rib, with an area of dulness in the axillary line. The respiration is feeble in front, and bronchial over the area of dulness on the side.

February 25th.—Pulse, 108; temperature, 99.7°. Much improved, has a good appetite, and has gained three pounds. The cough has become less frequent, but is to-day a little more troublesome in consequence of his having taken cold. Expectoration reduced to a half.

April 24th.—Pulse and temperature nearly normal. Had gained five and a half pounds, but lost two and a half during a severe attack of muscular rheumatism. Patient's general appearance is much improved, color good, and face fuller. There is dulness above and under clavicle, with diminished resonance as low as the second rib, instead of to fifth as at first examination. In the axillary line the dulness is much less marked. There is also dulness behind under the upper two-thirds of the scapula, which had probably escaped observation at the time of his first examination. Respiration over the affected portion of the lung is still bronchial.

Result.—Great improvement in general health, a gain of two and a half pounds, and probable diminution in the size of the area of dulness.

Case XLIX.—Male, twenty-five years, from Belleville, Ontario. (Dr. M. Sullivan.) Disease began in November, 1879, with bronchial catarrh; had night-sweats, and lost fifteen pounds.

January 31st.—Pulse, 102; temperature, 102°; weight, 150 lbs. Was quite ill during the journey south, and had to stop at Baltimore. Color pale. Expectorates about one ounce of muco-purulent matter. Tongue coated; cannot retain food. Right side dull in front from above clavicle to the fourth rib, with bronchial respiration. On the left side, dull from clavicle to second rib, with bronchial breathing. (Physical signs on the back were accidentally omitted.)

April 12th.—Patient improved steadily after the second week of stay in Aiken, and now looks quite robust; has a fresh, ruddy color, and now weighs 165 lbs., a gain of fifteen pounds since his arrival. Pulse, 80; temperature, 98.5°. Coughs only after a hearty laugh or some other unusual exertion. The dulness on the right side is reduced to a limited area above the clavicle, with diminished resonance under that bone. Behind there is diminished resonance over a small space between the scapula and spinal column. Respiration in front is vesicular; behind, bronchial over a very small area. On the left side the dulness has disappeared entirely, and the respiration is everywhere vesicular.

Result.—Complete arrest of the disease, with a gain of fifteen pounds, and entire disappearance of all physical signs of disease in one lung and partial clearing of the other.

Case L.—Male, 41 years, New York. (Dr. Horton.) Hereditary predisposition, several maternal aunts and uncles having died of phthisis. Disease is said to have commenced with chills and fever in the winter and spring of 1879. Cough began in June, had sweats in July and August, and gradually lost ten pounds.

February 7th.—At the time of his arrival in Aiken his weight was 141 lbs., but he has since gained twelve pounds. Color somewhat pale. Expectorates two ounces of muco-purulent matter.

Left side.—Dull from clavicle to the fifth rib in front, and under the upper third of the scapula behind, with feeble respiratory murmur, and loud, moist râles. On the right side no dulness, but about the middle of the lung the respiration is jerking and somewhat bronchial in character. Has dyspepsia and digests oil with difficulty.

April 13th.—Pulse, 80; temperature, 99.3°. Owing to repeated attacks of gastric catarrh, the patient has probably lost a few pounds of the twelve pounds gained during the first weeks of his residence in Aiken. He coughs much less, and the expectoration is reduced from two ounces to half an ounce. On the left side the dulness extends in front to the fourth rib; only a slight diminution in that situation. Posteriorly, the improvement is more marked, the dulness being confined to the space above the spine of the scapula. Respiration not noted.

Result.—A marked improvement; a gain of at least ten pounds, and a reduction in the size of the infiltration.

Case LI.—Male, twenty-eight years. (Dr. George H. Humphreys, New York.) Had hemorrhages at long intervals during the summer of 1879, with cough and night-sweats. Lost eight pounds.

February 10th.—Color pale. Expectoration small in quantity and muco-purulent in character. There is dulness on the right side above, under and below the clavicle in front, and between the scapula and vertebral column behind. In addition to this, there is a limited area of dulness in the axillary line. Respiratory murmur is feeble.

March 10th.—Pulse, 76; temperature, 99.5°. Much improved. Color good. Coughs only in the evening, and without expectorating. Has gained two pounds There is no change in the physical signs, but over the back and side there is no trace of the dulness observed at the first examination.

May 1st.—Patient has continued to improve, and now presents the appearance of a man in perfect health. Flesh firm, color good. Walks eight miles without feeling fatigued. He has gained two pounds weight, and has no cough. The only evidence of disease left is slight dulness under the right clavicle, with harsh respiration, and audible experium at the apex on that side.

Result.—Arrest of the disease, as evidenced by cessation of the hemorrhages and sweats; disappearance of the cough, increase in weight, and the absence of most of the physical signs observed at the first examination.

Case LII.—A married lady, twenty-three years of age, a patient of Dr. Fleming, of Pittsburg. She suffered in the fall and winter of 1876 with bronchial catarrh and loss of flesh; grew better in 1877, but relapsed in the fall of the ensuing year. Has lost fifteen pounds.

February 12th.—Pulse, 120; temperature, 100°; weight ninety-five pounds; looks very frail. Expectorates about one ounce in twenty-four hours. Over the left front there is dulness from the clavicle to second rib, with crepitant râles. Dull behind (extent not noted), with bronchial respiration. On the right side extensive dulness extending from clavicle to fifth rib, with bronchial breathing and prolonged experium. Posteriorly, on this side, there is dulness under the lower third of the scapula and between that bone and the column; respiration bronchial.

March 16th.—Has gained one pound and the face appears fuller. No change in other symptoms.

May 8th.—Pulse, 108; temperature, 99.5°. Reports that she coughs only a little in the morning, and that she is much stronger. Has not weighed, but has evidently increased in weight. The symptoms afforded by physical examination were very hastily noted and too imperfect for reproduction. They show, however, some diminution in the extent of the diseased surface.

Result.—Improvement in general health, slight increase in weight, and some diminution in the extent of the infiltration.

Case LIII.—A young lady of twenty years, patient of Dr. Van Dyck, of Philadelphia. Disease began in April, 1879, with persistent hacking cough and gradual loss of flesh. In September of that year she had an attack of pneumonia, irregular in style, but with the sputa characteristic of that disease. Has lost fifteen pounds.

February 16th.—Pulse, 112; temperature, 100.5°; weight, 130 lbs.; color pale. Over the right front, dull from the clavicle to the third rib, also over the back, as low as the angle of the scapula. Bronchial breathing, with prolonged experium, together with moist râles audible over the whole of that side. On the left side no dulness, but harsh respiration in front and bronchial over a small area behind. Can sleep only on the left side, and expectorates one ounce of muco-purulent matter.

March 15th.—Pulse, 100; temperature, 101.3°. Has lost one and a half pound. Extent of dulness unchanged, but there is cavernous respiration under second rib on the right side.

April 29th.—Color improved; is somewhat stronger; has an excellent appetite, and enjoys undisturbed rest at night. Weighs 117 lbs., a loss of thirteen pounds. The area of dulness is unchanged in front but extends an inch lower down behind.

Result.—Improvement in general health, but extension of the disease, with a loss of thirteen pounds in weight.

Case LIV.—A young man of twenty-four years, a patient of Dr. Joseph Stedman, of Boston, with hereditary tendency to phthisis on the father's side. During an attack of typhoid fever in December, 1879, chronic pneumonia developed itself at the apex of the right lung, which in the course of the succeeding two weeks rapidly extended through the whole of the upper lobe and a portion of the lower. Emaciated rapidly and had night-sweats.

February 24th. Pulse, 120; temperature 102.3°. Looks pale, and is quite feeble, being unable to walk even very short distances without becoming fatigued. On the right side an extensive area of dulness, extending in front to the fourth or fifth rib, and behind as low as the angle of the scapula. The respiration is distinctly bronchial over the area of dulness, and somewhat cavernous below the clavicle; experium prolonged. Vocal fremitus increased.

April 25th.—Pulse, 100; temperature, 100.4°. Patient looks a little better and his general health is somewhat improved, but the local symptoms remain as at first examination.

Result.—The result in this case, *i.e.*, prolongation of life, was fully as good as the grave nature of the case would admit of. The great extent of the disease and its rapid development in a young subject, after a long and exhausting illness, precluding all hope of a more favorable issue.*

Case LV.—A young man from Baltimore, who has had phthisis for several years, and has twice visited Aiken on that account, having each time derived marked benefit from his residence there. Becoming careless, and disliking the prolonged absence from home, he remained in Baltimore until the latter part of February, when increase of cough and renewed loss of flesh induced him to start for Aiken.

February 27th.—Pulse, 100; temperature, 98.5°; weight, 136½ lbs.; color pale. On the left side there is dulness in front, extending from the clavicle to the fifth rib, also in axillary line; posteriorly the lung is still resonant. The respiration is feeble in front with abundant mucous râles behind. On the right side there is a small area of dulness under and below the clavicle, the respiration over the upper portion of that lung being bronchial in character, with prolonged expiratory murmur.

March 9th.—Pulse, 96; temperature, 99.8°. Looks a little better, and has gained four pounds.

April 23d.—Has been very imprudent, and has exposed himself in the most reckless manner. Looks badly; has lost one and a half pound and is evidently much worse. The dulness extends over the greater portion of the left lung, and there is little or no movement of the thorax on that side during respiration.

Result.—Extension of the disease.

Remarks.—The marked improvement which took place during his former visits to Aiken justify the assumption that the result would have been different if this patient had returned in due season and had taken proper care of himself.

Case LVI.—Male, thirty-four years. (Dr. Haddock, of Beverly, Mass.) Began to cough in September and had pleuritic pains on the right side during the fall months. Expectoration has at times been tinged with blood. Has lost thirty pounds. Has been three weeks in Aiken, and during that time has improved in strength and has gained three pounds.

February 28th.—Pulse, 84; temperature, 99.3°; weight, 140 lbs. Right side dull in front from the clavicle to the third rib, also behind under the supra-spinous fossa. Respiration is much feebler than on the left side.

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* This patient declined rapidly after leaving Aiken, and died in the early part of June.

March 16th.—Pulse, 100; temperature, 103°. About ten days ago the patient had a severe attack of hyperæmia of the liver, with considerable pain and some dyspnœa. Is much reduced and has evidently lost ground.

April 30th.—Pulse, 96; temperature, 98.9°; weight 140. Coughs only in the morning, or after an indigestible supper, and has no expectoration. His color is good and his general appearance healthy. The dulness in front has receded to the second rib, a gain of one rib. Over the back the area of dulness is unchanged, except that there is a small dull space between the scapula and column. The respiration over the apex, both front and back, is bronchial.

Result.—General improvement, with some diminution in the amount of dulness, and a gain of three pounds.

Remarks.—This patient was gaining rapidly until prostrated by the hepatic complication, which caused him to lose much that he had previously gained.

Case LVII.—An Irishman, forty-three years. (Dr. Wright, of Indianapolis.) Has had pulmonary disease since 1870. Had repeated hemorrhages in 1877-78, lost thirty-two pounds in weight and has had night-sweats. In addition to disease of the lungs, the patient has had intermittent and remittent fevers, rheumatism and dyspepsia. Came to Aiken in January, improved for the first two weeks, gaining three pounds, but since that time has made no progress.

February 28th.—Pulse, 112; temperature, 99.5°; weight, 130 lbs. On the left side, dull in front, from the clavicle to the fourth rib sensitive on percussion, loud, moist râles over the upper portion of the chest. Posteriorly the dulness extends down two-thirds of the scapula, over which surface mucous râles are everywhere audible. On the right side there is nothing abnormal in front, but behind there is a small amount of dulness, with bronchial respiration, between the lower third of the scapula and column. Laryngoscopic examination reveals extensive ulceration of the vocal cords and congestion of other parts of the larynx.

Remarks.—This patient remained two months longer at Aiken, and, as would naturally be expected from the character and extent of the disease, failed to derive any benefit.

Case LVIII.—A married lady, thirty-one years old, a patient of Dr. H. A. Johnson, of Chicago. Mother and aunts died of consumption, and also one brother. Has had cough during the winter for several years, but last October it became persistent and was accompanied with night-sweats and emaciation.

February 28th.—Pulse, 100; temperature, 101°. The patient, who is greatly emaciated, presents a decidedly cachectic appearance and suffers with dyspnœa upon the slightest exertion. The amount of dulness does not correspond with the gravity of the other symptoms, being confined to a limited area above and under the right clavicle. The respiration over the upper portion of that lung is decidedly bronchial in character, with prolonged experium. On the left side the only abnormal sign is a loud expiratory murmur.

March 23d.—Pulse, 96; temperature, 98½°. Has had one acute exacerbation, but now feels better as well as stronger than when she first arrived.

May 4th.—Pulse, 112; temperature, 103°. Is evidently failing. The dulness is now plainly perceptible under the supra-spinous fossa on the right side. The disease has also made rapid advance in the right lung, the dulness on that side extending from the clavicle to the fourth rib.

Result.—Extension of the disease.

Remarks.—The cachectic appearance of the patient, her extreme emaciation and great weakness, with evidence of disease in both lungs, precluded all hope of a more favorable result.

Case LIX.—A young lady, twenty-six years old, a patient of Dr. W. W. Johnson, of Washington, D. C. The disease began with cough in September, 1879, followed by loss of weight and hemorrhage in December. Has also had night-sweats. Has lost nine pounds. She arrived in Aiken seven weeks ago and has improved, having already gained eight pounds.

March 2d.—Pulse, 108 (under excitement); temperature, 98½°. Looks quite healthy. Physical examination reveals dulness on the left side extending from the clavicle to the fourth rib, and under the upper portion of the scapula.

April 20th.—The improvement noted above continued until the middle of March, when she was unfortunate in contracting a severe cold, during which she suffered with severe pleuritic pains and lost her voice. Up to that time she had gained twelve pounds. She has now recovered from the attack and is again improving.

Result.—Great improvement checked by an acute attack, with a gain of about nine pounds. Change in physical signs not stated. Not having seen her until several weeks after her arrival, I am unable to state what alteration has taken place in the extent of the infiltration.

Case LX.—Married lady, twenty-nine years. (Drs. Conrad and Leaming, of New York.) Disease began with a "cold" in September; cough has been persistent since that date. Expectoration occasionally tinged with blood.

March 2d.—Pulse, 92; temperature, 98½°. Dulness over upper portion of the left lung in front and under the supra-spinous fossa behind. Respiration feeble on that side, with increased vocal fremitus.

April 27th.—Improved during the first weeks, gaining a few pounds. Since then there has been a great deal of gastric disturbance, occasional fever, and some pain in the lung. No change in the physical signs other than the presence of a few moist râles.

Result.—Leaves Aiken in about the same condition as when she arrived, the gain during the first weeks of her residence there having been counterbalanced by subsequent loss.

Case LXI.—A young lady, twenty years old. (Dr. Henderson, Brooklyn, N. Y.) The disease began with an attack of hæmoptysis in May, 1879, which recurred again in July and September, and was very profuse in December. Has had steady cough since September, and has lost six pounds. Has been two months in Aiken, and did well until a few days ago, when the cough became suddenly more frequent, and was attended with marked increase of temperature.

March 4th.—Pulse, 120; temperature, 100.4°. Looks pale and sick; tongue coated; no appetite, and complains of headache. Right front dull from the clavicle to the third rib, under the supra-spinous fossa, and between the scapula and column. Respiration is bronchial in character.

March 22d.—Is quite hoarse; has some pleuritic pain, and is feverish, all the result of exposure for several hours in a damp locality.

April 23d.—Has gradually recovered from the attack in March, which proved to be quite severe. Up to that time she had gained ten pounds. Her present weight is 128 lbs., which is four pounds greater than when she arrived. Physical signs unchanged.

Result.—Improvement in general health and a gain of four pounds in weight.

CASE LXII.—A married lady, thirty-two years. (Dr. J. Solis Cohen, Philadelphia.) Hereditary predisposition to phthisis. Cough began in September, 1879, followed by laryngitis in October. Aphonia from that date until her arrival in Aiken, when her voice returned, and is now quite clear.

March 5th.—Pulse, 94; temperature, 99.1°. Color good; cough very troublesome. On the right side dulness from the clavicle to the fourth rib and over upper third of the scapula. Respiration loud and bronchial in character, somewhat cavernous, with increased vocal fremitus behind. Laryngoscopic examination reveals erosion of both vocal cords, which are quite red near their insertion into the arytenoid cartilages.

April 24th.—Pulse, 92; temperature, 99.5°. General improvement; has gained one pound, and coughs less. The dulness in front has receded to the third rib. Physical signs in other respects unchanged.

Result.—Improvement in general health. Slight increase in weight. Some diminution in the extent of the infiltration, and recovery of voice, after four or five months of more or less complete aphonia.

CASE LXIII.—A married lady, forty-five years. (Dr. Ralph Walsh, Washington, D.C.) Hereditary predisposition, father, mother, brothers, and sisters having died of consumption. Has been in feeble health for several years, and has had cough since November, 1878. Has had one hemorrhage. Loss of weight, twenty pounds.

March 12th.—Pulse, 92; temperature, 101.6°. General appearance decidedly cachectic. Expectorates about two ounces of thick muco-purulent matter. On the right side there is dulness above and under the clavicle, with diminished resonance as low as the third rib. Behind, the dulness extends over the upper two-thirds of the scapula. Respiration both front and back decidedly bronchial, and in some places cavernous in character. On the left side there is also an area of dulness, extending in front from the clavicle to the second rib, and occupying behind the space corresponding with the supraspinous process. The respiration on that side bronchial, with an occasional ronchus.

This patient improved, but, owing to her being suddenly called home, I had no opportunity of again examining her. With a view to completing the history of the case, I wrote to Dr. Walsh to ascertain her condition. He writes to me, under date August 29th, that he "firmly believes that the trip to Aiken has so far saved her life," and that he proposes to have her return next season.

Result.—Marked improvement in general health; changes in physical symptoms not noted.

CASE LXIV.—Male, twenty-two years. (Dr. J. S. Lothrop, Boston.) Lost a brother with pulmonary phthisis. Disease began in March, 1879, with cough and emaciation. Lost eleven pounds, but subsequently regained eight pounds.

March 13th.—Pulse, 84; temperature, 98½°; weight, 125 lbs. Expectoration small in quantity, and of late occasionally streaked with blood. Over right front dulness above and under the clavicle. Respiration feeble, with prolonged experium. Behind there is dulness under the supra-spinous fossa, the respiration being as in front.

April 23d.—Patient has had an exacerbation of his disease, with fever, pleuritic pain, and a loss of four pounds in weight. From this he soon rallied and now weighs 128 lbs., which is three pounds more than at the time of his arrival. The infiltration is slightly increased in size, there being diminished resonance to the second rib in front, and two-thirds down to scapula behind.

Result.—Extension of the disease at first, with marked improvement afterward; the loss during the acute attack being more than counterbalanced by his subsequent improvement.*

CASE LXV.—Male, thirty-two years. (Dr. Edwin Powell, Chicago.) Disease began with bronchial catarrh in the summer of 1878. Lost twenty pounds, of which he afterward regained ten. Has had fever, and occasional sweats. Went to Colorado in November, 1878, and remained there until August, 1879, lost his cough, but did not increase in weight. Has been hoarse since September, 1879. Cough reappeared after his return to Chicago.

March 16th.—Coughs but little, but when he does the expectoration is quite profuse. Weight, 130 lbs. Physical examination—the notes of which are rather incomplete—reveals a small infiltration at the apex of the right lung, as evidenced by dulness and bronchial respiration.

April 28th.—Pulse, 60; temperature, 98.9°. Weight, 136 lbs, a gain of six pounds. Coughs very little (a short hack two or three times a day), expectorating a small quantity of matter, which is gradually diminishing in quantity. Flesh firm; strength much improved. Walks two and a half miles without fatigue. His appearance is that of a perfectly healthy man. Slight dulness under outer portion of the clavicle, under the supra-spinosis fossa, and between that portion of the scapula and the vertebral column. Respiration bronchial. Hoarseness greatly improved.

Result.—Great improvement in general health, diminished cough and expectoration, and an increase in weight of six pounds. Voice much clearer.

CASE LXVI.—Male, twenty-one years. (Dr. Loomis, New York, consulting physician.) Had cough throughout the winter of 1878–79, which disappeared during the summer, but returned in December, after taking a severe cold. Had an attack of hæmoptysis in January, 1880. Has lost twenty pounds, and has had night-sweats.

March 18th.—Pulse, 120; temperature, 100.7°. Weight, 115 lbs.; appearance cachectic; expectoration two ounces. There is an extensive area of dulness, with feeble respiration to the outer side and below the angle of the right scapula.

May 26th.—Pulse, 84; temperature, 99.8°. Weight, 130 lbs., a gain of fifteen pounds. Coughs less, and looks much better, has a good appetite, and is able to walk three miles without fatigue. Marked depression of the thorax below the right clavicle. Dulness as at first examination. Respiratory murmur feeble and indistinct.

Result.—General improvement, and a gain of fifteen pounds.

CASE LXVII.—Male, twenty-five years, from New York. Has been treated by a homœopathic practitioner of that city. No hereditary predisposition. Is said to have had malarial fever in August, 1879. This was followed by cough, and loss of weight to the extent of seven pounds. Has had night-sweats. Expectoration has been occasionally tinged with blood. He arrived in Aiken late in January, and has been steadily improving ever since. The night-sweats have ceased, and he has regained the seven pounds which he lost in New York.

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* This patient was again under my care during the summer months at Bethlehem, N. H., where his improvement was both rapid and continuous.

March 30th.—Pulse, 88; temperature, 99.2°. Color good. Expectorates two ounces.

Right side.—Dull under the clavicle and first rib, with diminished resonance under the upper portion of the scapula and in the interscapular space. In the latter situation the breathing is bronchial.

May 8th.—Patient did well until two weeks ago when he was taken with diarrhœa. He reports that he consulted a physician, who informed him that it was his liver which was at fault, and gave him powders (probably calomel), during the administration of which he grew rapidly worse. The patient is much changed for the worse and presents a miserable appearance. His pulse is 96, and his temperature 102°. Is pale, and is exhausted by the slightest exertion. There is dulness over the entire front of the right lung, with bronchial breathing. Under proper treatment he improved sufficiently to start for home during the following week.

Result.—Great improvement during the first three months, with a gain of seven pounds, followed by relapse and rapid extension of the disease.

CASE LXVIII.—A young man of about nineteen years, from Boston. (Dr. Knight, consultant.) Has had cough since last spring, attended with loss of flesh. Spent the summer at Bethlehem, N. H., where he held his own. Returned to Boston in the fall, and while there lost ground. Came to Aiken a month ago and has been improving ever since. Has gained ten pounds since his arrival.

April 6th.—Pulse, 112 (is very nervous); temperature, 100.9°. On the left side there is a dull area extending in front from the clavicle to the seventh rib, and behind as low as the angle of the scapula. The respiration is distinctly bronchial in character.

April 30th.—Pulse, 104; temperature, 100.7°. Color improved. Weighs 146 lbs., a gain of two pounds since last examination, and of twelve pounds since his arrival. Coughs less, expectoration reduced in quantity and with a greater proportion of mucus. In front the dulness has receded to the fifth rib, but this is counterbalanced by extension behind, the lower border of the area of dulness now reaching to one inch below the angle of the scapula.

Result.—Great improvement in general health, with a gain of twelve pounds.

CASE LXIX.—A young lady, twenty-eight years, a patient of Dr. Opie, of Providence. Several relatives on the maternal side, including the patient's mother, have died of phthisis. Had cough during the winter of 1878 and 1879, but was free from it during the ensuing summer. It returned again in the fall after an attack of "nervous prostration" and has persisted ever since. Has lost a great deal in weight, but does not know how much. Sputa have been occasionally tinged, and has also suffered with night-sweats. Has improved a great deal since her arrival in Aiken six weeks ago, eating and sleeping well, increasing in weight, and coughing less.

April 17th.—Pulse, 100; temperature, 99.5°; weight, ninety pounds; expectorates half an ounce. Over the right front, which is very sensitive on percussion, there is no marked dulness, but the respiration is decidedly bronchial. Posteriorly there is dulness under the scapula and between that bone and the column. The respiration over that region is bronchial.

May 5th.—Pulse, 80; temperature, 99.8°. Has gained eight pounds, and has a healthy color. Coughs but little, and does not expectorate more than a drachm. (I did not have an opportunity of examining her before she left Aiken, but on meeting her a few months later at Bethlehem, N. H., I found she had been entirely free from cough for several months. The bronchial respiration had disappeared, leaving only a little roughness. The area of dulness behind, although still present, was much more limited than when I first examined her.)

Result.—Marked improvement in every respect, with subsequent arrest of the disease.

TABULAR STATEMENT OF CASES OF PHTHISIS TREATED AT AIKEN, SOUTH CAROLINA, DURING THE WINTER OF 1879–80.

Case No.	Lung affected.	Term of residence in Aiken.	Result.	Increase in weight.
XXXII	Left.	5 months.	Improved.	16 lbs.
XXXIII	Left.	1 month.	Grew worse.	0
XXXIV	Right.	4 months.	Died.	0
XXXV	Right.	3 months.	Improved.	Not noted.
XXXVI	Right.	5 months.	Grew worse.	0
XXXVII	Right.	2 months.	Died.	0
XXXVIII	Right.	5 months.	Improved.	8 lbs.
XXXIX	Left.	3 months.	Grew worse.	0
XL	Left.	3 months.	Grew worse.	0
XLI	Right.	4 months.	Improved.	4½ lbs.
XLII	Both, with laryngeal complication.	3 months.	Grew worse.	0
XLIII	Right.	10 years.	Arrest.	Not noted.
XLIV	Right.	4 months.	Arrest.	2 lbs.
XLV	Both.	4 months.	Grew worse.	7 lbs.
XLVI	Right.	4 months.	Arrest.	4 lbs.
XLVII	Both.	3 months.	Arrest.	20 lbs.
XLVIII	Right.	3 months.	Improved.	2½ lbs.
XLIX	Both.	3 months.	Arrest.	15 lbs.
L	Left.	3 months.	Improved.	10 lbs.
LI	Right.	3 months.	Arrest.	2 lbs.
LII	Both.	3 months.	Improved.	Not noted.
LIII	Both.	3 months.	Grew worse.	0
LIV	Right.	2 months.	Unchanged.	0
LV	Both.	2 months.	Grew worse.	0
LVI	Right.	4 months.	Improved.	3 lbs.
LVII	Both, with laryngeal complication.	4 months.	Unchanged.	0
LVIII	Both.	2 months.	Grew worse.	0
LIX	Left.	4 months.	Improved.	9 lbs.
LX	Left.	2 months.	Unchanged.	0
LXI	Right.	4 months.	Improved.	4 lbs.
LXII	Right.	3 months.	Improved.	1 lb.
LXIII	Both.	2 months.	Improved.	Not noted.
LXIV	Right.	2 months.	Improved.	3 lbs.
LXV	Right.	3 months.	Improved.	6 lbs.
LXVI	Right.	3 months.	Improved.	15 lbs.
LXVII	Right.	3 months.	Grew worse.	0
LXVIII	Left.	2 months.	Improved.	12 lbs.
LXIX	Right.	2 months.	Arrest.	8 lbs.

SUMMARY.

	Season 1878–79.	Season 1879–80.	Both Seasons.
Arrested	6	7	13
Improved	13	16	29
Unchanged	4	3	7
Grew worse	7	10	17
Died	1	2	3
	31	38	69

It will be seen by the above summary that there is a remarkable degree of uniformity in the results of the two seasons. As "arrested" are classed only those cases in which the cough has ceased, in which there was no fever or other evidence of activity in the disease, and in which the increase in weight and general appearance of the patient indicated that for the time being, at least, he was restored to health. Many of these cases might safely be regarded as permanently *cured*, but as the comparatively short time that most of them have been under observation precludes the possibility of determining the permanency of the arrest, I have concluded to adopt a more modest but safer term to signify that the disease has been brought to a standstill. Many of the local manifestations of disease, such as depression of the thoracic walls, dulness on percussion, etc., are still present, to a greater or less extent, in most of these cases, nor is it to be expected that they will ever disappear.

I have seen cases that have enjoyed good health uninterruptedly for twenty or thirty years in whom the dulness was as distinct as when the process was at its height. Case XLIII., where after ten years of good health the dulness is still present, affords a good example of this fact.

Progress of Medical Science.

Multiple Sympathetic Affections Caused by the Presence of Intestinal Worms.—Dr. Guermonprez (*Journal des sciences méd. de Lille*, July, 1880) reports this curious case: A girl, eleven years old, without morbid antecedents, and lacking all hereditary taint, had occasionally passed some long round worms (*ascaris lumbricoides*), but in less number than many other children living in the same locality. Her father noticed that her intelligence began to weaken, and that she showed peculiarities of character. She would tear her clothes, run away from home, or grow morose, irritable, and perverse. Her memory began to fail her. At irregular intervals, and without appreciable cause, these psychical disturbances became even more marked. Her nights would then be spent in restless agitation. This lasted about a month. The restlessness was at that time constant; when about, she must walk; if stopped, she stamped her feet, kicked with irregular movements, gave no answers. When seated, her limbs were in perpetual motion. There were moments of apparent calmness, but also decided exacerbations. Hearing was lost, and vision became impaired. In addition, speech forsook her, and her face was distorted by grimaces. Frequently she cried, at other times she appeared to be viciously inclined, pursuing her sister with a knife. Again, she would be the victim of actual hallucinations. The bodily functions were regularly performed, but she had grown somewhat thinner. Opium, chloral, bromide of potassium, and baths, all proved unavailing in the cure of her malady. At length a vermifuge was tried, and thirty-seven worms were passed. On the following day the nervous condition was visibly improved. In twelve days she passed about eighty worms, and as she got rid of them her agitation subsided and her intelligence returned. In two months she had completely recovered, and the cure has remained undisturbed for the two years since that time.—*Gazette méd. de Paris*, August 21, 1880.

Embolism of the Abdominal Aorta above the Iliac Bifurcation.—Dr. Deroyer reports the following case: A primipara, twenty-two years old, having passed through a normal pregnancy and delivery, developed a marked febrile movement on the third day after the latter event. She was then giving the breast to her child, but the condition of the abdominal organs gave no clue to the fever. Antipyretic treatment soon controlled the fever, but three days later it returned, together with painful sensations in the left iliac fossa. After several days the febrile movement again ceased. The patient being constipated a castor-oil injection was given. A difficult evacuation followed, and during the efforts of defecation she suddenly uttered a loud cry, and complained of a severe pain in her abdomen. The physician arriving soon after found her with an anxious expression of countenance, breathing rapidly, and with a pulse of 120. No tympanitis, no abdominal tenderness, and normal lochial discharge; uterus and appendages showed no signs of inflammatory action. Her condition fluctuated for several days between pain with fever, and complete freedom from all morbid manifestations. Then one night the doctor was suddenly summoned, and found the patient suffering intolerable pains in both legs, together with a feeling of numbness there. In exploring the condition of the circulation it was found that both femoral arteries lacked a pulse. The abdomen being supple, abdominal pulsations could be readily felt, extending as far as the umbilicus, where they ceased. Hence that point corresponded to the seat of obstruction. It was determined to try energetic pressings and rubbings along the course of the aorta. The pain subsided somewhat under this treatment, but on the following morning the femoral pulse was still absent. A repetition of yesterday's experiment was followed by the reappearance of the pulse, and was repeated as often as it began to flag. Spots of discoloration, however, made their appearance on both legs. The pulse seemed permanently re-established on the left side, but was again absent on the right. The frictions were followed by a reappearance, for a short time, of the pulsations, but at last they invariably ceased soon after this manipulation. Gangrene at length supervened, and the patient died. An autopsy was not permitted.—*Gazette des hôpitaux*, Aug. 10, 1880.

Anthrax Acquired on Pasturage.—Dr. Poincaré reports the following, which is of interest from the standpoint of experimental pathology. On an isolated farm the cattle were attacked by anthrax, and nineteen animals perished within three weeks. A veterinarian observed that the grass of the meadow serving as pasturage ground was always wet with a marshy liquid. He thought that this might contain the germs of the disease, and advised the farmer to seek new pasturage ground. Another veterinarian's advice, to the effect that the animals should not be allowed to return to their stable, being followed, three more beasts died. Dr. Poincaré received some of the marshy fluid, together with blood from one of the dead animals. Both contained similar bacteria. Some of the boggy fluid having been hypodermically injected into a guinea-pig, the latter soon fell sick, and died in a few days after the injection. The blood of the animal showed the parasitic alteration described by Davaine, and being introduced subcutaneously into a second guinea-pig, caused the death of this one on the same day. The autopsy and microscopic examination demonstrated that the disease was anthrax.—*Gazette méd. de Paris*, August 21, 1880.

Mastich in the Treatment of Uterine Cancer.—Dr. O. Jennings has tried this drug as a substitute for the Chian turpentine, in six cases of uterine cancer, and while he has, of course, been unable to effect a cure, the treatment was nevertheless, in several instances, followed by a decided improvement in the general condition of the patients. The drug (turpentine of *Pistacia lentiscus*) was administered in connection with flowers of sulphur, and in the form of pills, the proportion being six parts of the turpentine to four of the sulphur. Eight pills, each one containing 15 centigrammes of the turpentine, were given as a daily dose. In the first case, after ten days of such treatment, the local signs were but slightly changed; still there was a marked improvement of the patient's general health, the appetite was better, and the vaginal discharge had considerably diminished. The existing painfulness in the lumbar and hypogastric regions was also much lessened. In the second, the drug caused some initial vomiting, but tolerance was soon established. Here, also, the patient was notably improved. In the third case, the improvement was still more marked, so that the patient insisted on leaving the hospital, being now in a condition of absolute painlessness, whereas on admission she had suffered intensely. In the fourth case, the pains were not controlled, but the discharge diminished during the administration of the drug. The fifth case showed no local amelioration after one month's trial of the turpentine, though the general health of the patient continued to be satisfactory during all this time. In the sixth and last case the drug increased the already existing tendency to vomit, and after one week she refused to continue with the medicine. There was no improvement. Finally, the writer says that these trials certainly had encouraging results, and in view of the difficulty of obtaining pure Chian turpentine, ordinary mastich deserved to be further tried.—*La Tribune médicale*, Aug. 15, 1880.

Influence of the Epileptic Attacks on Weight of Patients.—Dr. Kowalewsky read a paper bearing the above title before the twenty-first convention of Russian naturalists and physicians. He divides his patients in five groups: 1, chronic grand mal, with frequent attacks (twenty-five cases); 2, recent (one to one and a half years) grand mal, with few attacks (forty-seven cases); 3, petit mal (seven cases); 4, status epilepticus (about ten cases); 5, epilepsy with mania: *a*, with convulsions, and *b*, without convulsions (number of these cases not stated). Patients were kept on the same diet, were weighed at regular hours, were not made to do any hard work, and all suffering from insomnia, fever, etc., were excluded: 1. In old cases of grand mal, the loss in weight, after each paroxysm varied from one to two pounds. 2. In recent cases of grand mal the loss was from three to twelve pounds, but more commonly, three, five, and four pounds. One patient, who was free from the attacks during six months, after two consecutive paroxysms lost nine pounds. 3. Attacks of petit mal were also followed by loss in weight, but to a lesser degree. One patient has had twelve attacks, and each time his loss amounted to from four to five pounds. The maximum loss in this category of cases was nine pounds after two attacks during the same day. 4. During the status epilepticus the loss was not great, one to one and a half pounds. But the total loss in some cases extended to twenty-five per cent. of the weight of the patient. 5. Among the cases of epilepsy complicated with mania, those that suffered from convulsions and vertigo were particularly observed. In one such case, in the course of observation, the weight fell from 146 to 114 pounds.

Although the cause of this phenomena lies in the increased nutritive changes, still, to determine the exact nature of them, a further study of the question is needed.—*Vratch*, 1880, No. 2.

The Condition of Blood in the Course of Diseases Affecting Lymphatic Glands.—Dr. Pawloff read a paper on this subject before the same convention. His conclusions, based upon ninety-three examinations of fifty-two cases of different diseases of lymphatic glands, from simple hyperplasia to profuse suppuration, are as follows: the number of red blood-corpuscles is not affected. Increase of white corpuscles is observed only in the course of purulent processes in the connective tissue surrounding the gland. The decrease of hæmoglobin is due, not to the glandular lesion, but to the state of patient's general habit.—*Vratch*, 1880, No. 4.

Arterial Transfusion of Blood.—Prof. S. P. Kolomnin performed this operation ten times. He injected defibrinated blood into the peripheral end of the radial artery. He claims the following advantages over the venous transfusion: it is as simple and as easily performed as the latter, a greater amount of blood can be injected (from 100 to 220 c.c.), which enters the heart more gradually, and there is no danger of obstructing the vessels of internal organs.—*Transactions of the Society of Russian Physicians*, 1879–1880.

Curious Cases of Volitional Control over Involuntary Acts.—Dr. Berliakoff reports in *Vratch*, 1880, No. 8, a case of a man suffering from syphilitic ulceration of the rectum, who succeeded in gaining such control over his sphincters, that he could, under certain conditions, open the anal orifice, permitting a perfect inspection of the rectal mucous membrane to the depth of seven centimetres, the anus appearing as a hole two centimetres in diameter. He could retain the parts in this condition for ten to fifteen minutes, becoming very much fatigued at the end. To accomplish it, he had to place himself in the position known as *à la vache*, cover his head with a blanket or a gown, stop breathing and draw in the abdomen: perfect silence was absolutely necessary. He could not give any explanation of how he was doing this. Silence and darkness were necessary to permit him to concentrate his mind on the act. He was led to this by a desire to assist his physician, as local manipulations were very difficult and painful. Prof. Manassein, editor of *Vratch*, speaks of two medical students: one of whom can accelerate and the other retard the pulse-rate at will.—*Ib.*

Faradization of Abdominal Muscles for Ascites.—Dr. Sigrist reports a second case of ascites successfully treated in this manner. Ascites was due to hypertrophic cirrhosis of liver. Every muscle was made to contract from fifteen to twenty-five times; two seances per day. Under this treatment patient began to lose in weight about 200 grms. per diem; amount of urine became double, and abdominal circumference was diminishing from one-half to one centimetre per day. On the tenth day abdominal bandage was applied. In three weeks ascites entirely disappeared and had not recurred when seen three months later.

A similar case, complicated with nephritic congestion, diminished urinary secretion, and trace of albumen in the urine, was treated by faradization alone, by Dr. Popoff (*Vratch*, 1880, No. 22), with the like result. Amount of urine was increased from 800 to 1,000 c.c. to more than double the quantity. Albumen disappeared from the urine on the eighth day and did not return. Abdominal circumference fell from ninety-five centimetres to eighty centimetres; ascites was cured; spleen became much smaller. The days when faradization was omitted, amount of urine was always smaller. Beneficial effects of this treatment was also ascertained in the clinique of Dr. Lesch.—*Vratch*, No. 9, 1880.

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THE VALUE OF SANITATION IN NEW YORK.

A REVIEW of the vital statistics of this city for the present year may on some accounts produce a little discouragement as regards the efficacy of sanitation. We have had for some years as efficient a board of health as exists in any city, and its work is helped by a reasonably good supply of money. In addition to this, there are several private associations which contribute largely to the work of preventing or relieving sickness among children. Our tenement-houses are visited by sanitary inspectors and physicians; many of the children of the poor have been taken out upon the harbor, or have been to sea-side sanitaria, or carried for the summer into the country; and there has been, apparently, every possible attempt made to lessen the prevalence of disease. Nature has to some extent made this work easier, for New York is admirably situated for purposes of thorough drainage, and it can be swept by the wind from every quarter.

On looking over the tables of vital statistics, however, we find that, in the present year, sickness, and especially contagious disease, has markedly increased, and that for a few weeks in the past summer New York had the highest mortality rate of any city in the world which reported its deaths. This rate, for example, during the week ending July 3, 1880, was 56.20 per thousand, estimating the population at 1,200,000. For several weeks an extremely high rate was kept up, despite every precaution.

This particularly high death-rate cannot be ascribed to the heat alone, because there are many hotter cities than New York; and in these—such, for example, as Philadelphia and St. Louis—the mortality was much lower than it was here. Neither can it be entirely ascribed to the condition of our tenement-houses, for the increase of mortality was not proportionately so very much greater in the tenement-houses than in other districts. We must add, probably, to these factors, an "epidemic constitution" and —dirty streets.

By examining the statistics of contagious diseases for the year 1880 as compared with 1879, it will be found that during the present year there has been an increase in nearly all forms. The exact figures we have already published. This increase has not been very great in any particular case, but, taking it as a whole, the difference is very marked. And this difference, as we remarked, has occurred in the face of active measures to secure purer air, better drainage, and disinfection and isolation in all cases of infectious disease. But these facts do not give a brilliant showing for the efficacy of sanitation, though we do not mention them with the intention of undermining faith in hygiene or boards of health. It has been abundantly proven that our City Board has considerably reduced the mortality rate during the years in which it has been in existence, and the number of lives thus saved or prolonged amounts to many thousands.

On the other hand, it does not do to ignore the darker side of the matter. Sickness will prevail and death-rates increase, although sanitary officials do all in their power to prevent them. There is no danger that the people will fail to know it when the authorities are making the city healthier. But it is quite as important, though not nearly so likely, that the people should know when the city's health is not so good. A daily contemporary chooses to ascribe all the sanitary and other ills of our municipality to the dominant party which looks first after the "spoils" and last after the streets. That the present rule under which New Yorkers live, is deplorably bad in many respects, we can safely assert without being accused of partizanship. But, apart from its politics, there are two peculiarities in our city to which its unhealthiness is largely due—two things which are to a great extent under municipal control: these are the dense accumulation of people in badly constructed tenement-houses, and the filthiness of the streets. A great deal can be done to relieve the first trouble; vastly more improvement, however, can be accomplished in keeping our streets clean. They are now the reproach of the city; and it cannot be that the miles of festering filth exposed to the summer sun has not something to do with the mortality rates.

These are lessons, then, in the vital statistics of the year. Health boards do not always succeed in the fight against pestilence, or even against the ordinary course of disease. And when this is the case in New York, we may look for explanation not only to the obstinacy of pathological processes, but to the peculiarities of municipal politics.

CIVIC MALARIA.

This is a term used—perhaps coined—by Dr. John C. Peters in the annual report of the Committee on Hygiene of the Medical Society of the County of New York. We presume that he used the word "malaria" in its broadest sense, viz., "*bad air*," and merely applied a slightly mysterious and high-sounding phrase to the collective bad air of great cities and its varied ingredients. As far as we understand Dr. Peters, he merely claims that certain parts of New York, like Harlem, and many large cities, were once truly malarious in its narrow sense, and produced intermittent, remittent, and other paludal fevers and do so still; thus Murray Hill was once a hotbed of fever and ague; malarious diseases in large numbers have been produced by the deep upturning of the soil in excavating the Fourth Avenue Tunnel, and also along the lines of the elevated roads. But the subsoil of large cities is always further contaminated by bad drainage, obstructed underground watercourses, filling of low-lying places with street-sweepings and other more objectionable refuse; leakage from numberless old-fashioned out-door privies and cesspools, from sewers and gas-pipes, and last but not least, soakage from perennially filthy streets and gutters. The exhalations from such a subsoil when liberated produce a peculiar typho-malarial fever, as was evidenced when large water-pipes were put down in one of our largest and most fashionable avenues. Dr. Peters claims that ordinary street pavements, especially when made of cobble-stones, are not sure preventives of the rise of these miasmatic or malarious exhalations from the subsoil; much less are many of the ordinary pavements of the cellars of numerous houses, which are far from being air or water-tight, and allow subsoil bad air to rise, which becomes especially noxious at night when all the doors and windows are closed. The exhalations from the street-sewer openings, and of these into the docks, and from the water-logged soil in the neighborhood of wharves, are highly productive of all the varieties of malarial and typho-malarial and miasmatic diseases. Bartholow includes cholera, diphtheria, cerebro-spinal meningitis, influenza, etc., among the miasmatic diseases, while the Germans have correctly added a class of miasmatic infectious and miasmatic contagious disorders. The miasmatic contagious diseases are such as are developed exterior to the body in animal and vegetable decompositions, to which has been added the specific poison of some disease which had its origin in a diseased body. The peculiarly miasmatic contagious diseases are typhoid and yellow fevers, diphtheria, influenza, and Asiatic cholera. The miasmatic infectious disorders are cholera infantum, cerebro-spinal fever, lung fever, etc., etc.

Additional causes of civic malaria, according to Dr. Peters, are exhalations from gas-works, offal-rendering, the making of fertilizers, from various other offensive and noxious trades which produce smoke and smells, and from the dumping-grounds of stable-manure and street-sweepings and garbage. These abound along the river banks of many large cities, and in one of them, not far distant from New York, the principal slaughtering establishments are sandwiched between docks for manure-dumps and street-sweepings on the one side, and some of the most offensive offal-rendering establishments on the other, and the meats are cooled off in this impure air.

According to Dr. Peters, cholera infantum or summer complaint is a miasmatic infection arising from the foul air of cities, aided by heat, bad milk and food. Impure air is the great cause, and pure air the great cure. Diphtheria is a miasmatic contagious disease, arising from impure air, and sometimes becoming contagious. True influenza—not mere common catarrh—is a miasmatic contagious disease, arising originally from impure air, and becoming contagious like diphtheria and measles. Typhoid fever is a filth fever, which becomes infectious first, and contagious afterward by the decomposition of the discharges. Asiatic cholera and yellow fever are miasmatic disorders which become infectious and contagious like typhoid fever.

We give Dr. Peters' views for what they are worth, and can only say if the streets, gutters, sewers, and subsoil beneath us were as pure as the great mass of air above us, there would be as little filth, malarial, typho malarial, and miasmatic contagious diseases in large cities as in the purest country places.

THE QUESTION OF ETHICS IN THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Another annual report to the Medical Society of the County of New York, that presented by Dr. Samuel Sexton, the Chairman of the Committee on Ethics, invites a word or two of special comment. Although the printed minutes of the society will soon place this report, which touches upon many points of unusual interest to the profession, befo e its members, we may in the meantime briefly allude here to some features of the committee's work. From the observations of the committee the most amicable personal relations are maintained by the profession, a state of affairs that we should naturally expect to prevail in a great metropolis where rivalry seems to inspire greater endeavors rather than petty jealousies; but on the other hand rivalry seems also to have engendered among professional men a desire for advancing their interests by methods that, although not affecting personal relations directly, are held by the codes of ethics, both national and state, to be inimical to the general interests of the profession. We here allude to professional advertising, a subject upon which the County Society has expressed its sentiments in the plainest terms. On this subject there is among physicians a difference of opinion, and it seems to have been the endeavor of the committee to deal with it on broad grounds, without giving offence to any by singling out individual cases for special investigation. That they were not able in all cases to avoid criticism was to be expected, for there were some who failed to appreciate the delicate position of the gentlemen who accepted this disagreeable duty with a desire to aid the society in keeping the flock within the fold. Every means suggested by the codes was resorted to in the endeavor to prevent members of the society giving certificates to dealers in mineral waters, proprietary goods, etc., and it is to be regretted that its efforts were only partially successful, for it is believed that such advantages extended by the profession to trade interests is an injury to our own. We should state here, that before its adjournment, the annual meeting, at which there was a large attendance, adopted a by-law which it is hoped will effectually prevent members publishing such certificates in the future.

As regards the publication in the newspapers of interviews with physicians on medical subjects, responsibility in such cases is not avoided, the committee believes, by placing the advertising physician's name at the beginning of an article instead of the end; it was found, however, that existing laws did not reach these cases, although they may have been sufficient for the evils that existed when they were enacted. We agree with the committee that it is time that the codes of ethics should be revised in order to free them of the accumulated mass of verbiage, sentimental advice, and useless moral platitudes with which they are encumbered; such laws as we find buried here by no means serve the purposes of the profession of the present day. It really seems as though the society ought to either make ample provisions for holding its members to a more strict accountability, or else cease altogether the futile efforts that when persisted in bring ridicule upon its actions. Perhaps, after all, we shall, as the committee intimates, have to rely upon the higher sentiment in the profession and simply hold ourselves amenable to the unwritten code that prevails among gentlemen everywhere. This report refers to some points in the system of ethics of the Medical Society of the State of New York, that seem to have long been observed in the breach only; one is as follows: Every practising physician, under these laws, forfeits his license by a failure to join a county medical society. The other alludes to the termination of membership, which may occur by abandoning the profession, by removal from the county, by expulsion, or by death. It now remains with the State Society to carry forward the work that these gentlemen have inaugurated in so earnest a manner, by providing effective measures for meeting these questions. There are other recommendations in the report which should command the careful attention of every member of the society. Of the committee itself, it may be said that it fully accomplished its object in clearly bringing forward to the profession the numerous questions of general interest that were referred to it for action.

A STATE BOARD OF HEALTH FOR VERMONT.

A BILL has been introduced into the Vermont legislature, now in session, to create a state board of health. It provides for the appointment of six persons, who, with a secretary, shall constitute the board. They are to meet regularly once in two years, and oftener if necessary. Their duties include the supervision of all matters pertaining to public hygiene. The mayor and aldermen of the cities, and the selectmen of the towns, are made *ex officio* local health officers, whose duties are to keep things in good sanitary condition. The State Board is chiefly advisory, but the local boards have executive power. The secretary of the State Board is to deliver one lecture on sanitary science annually, in every county in the state.

The bill seems to be a good one, but it appropriates only the ridiculous sum of $500 for annual expenses. There are generally a great many doctors in the Vermont legislature, and they ought to see that the bill, if passed, is not made inoperative by a short-sighted parsimony.

Reviews and Notices of Books.

CLINICAL URINARY EXAMINATIONS. Arranged and compiled by J. F. GOULD, M.D. Boston: Doane & Greenough. 1880.

THIS is a blank case record prefaced by half a dozen pages on the clinical examination of urine. A table is given showing the action of the main reagents in the examination of urine; also tables with the indications given by the urine regarding general and renal diseases.

The division of the nephrites into seven different kinds is an impracticable clinical refinement, even if justifiable pathologically. Otherwise the tables are clear and helpful. The book is dedicated to the physician who is clinically earnest and honest, and is not afraid of a little extra work. It is to be hoped that on this, if not on many other accounts, the manual will be a success.

THE BRAIN AS AN ORGAN OF MIND. BY CHARLES BASTIAN, M.A., M.D., F.R.S. Pp. 708. New York: D. Appleton & Co. 1880.

THIS book is remarkable for the lucid manner in which a difficult subject has been treated. Although, as the title implies, the work treats of a philosophical subject, the style is so fluent and simple that it reads as smoothly as an essay on some popular historical subject. The author, an avowed evolutionist of the most advanced type, has taken the evolution theory as a basis upon which all his views are founded. While we recognize the fact that the large majority of scientists of the present day adopt the theory in question, we believe that, in the present instance, the author has at times accepted certain views as proven, because they harmonized well with the general theory, although they are not by any means thoroughly demonstrated.

In the first nine chapters Bastian describes the uses and origin of a nervous system and its anatomy in the lower animals. These chapters will well repay perusal by all as a preparation for the study of the anatomy of the nervous system in man.

Chapter X. contains a discussion on the scope of mind, and it is very evident from the following extract that the author's views on this subject are decidedly different from those generally entertained.

"In treating of 'the brain as an organ of mind,' therefore, it will be understood that we use the word 'organ' merely in the sense that it is a part whose molecular changes and activities constitute the essential correlatives of those phases of consciousness known as sensations, emotions, thoughts, and volitions, *as well as of a considerable part of the sum total of those other related nerve-actions which are unattended by consciousness, and whose results form, in accordance with the views above stated, so large a proportion of the phenomena comprehended under the general abstract word 'mind'*" (italics by the reviewer). Or, as he expresses it in another place, "the word 'mind' must be very considerably enlarged, so as to enable us to comprise, under its new and more ample signification, the results of all nerve-actions other than those of outgoing currents."

Unless we arbitrarily define the boundaries of mind as coextensive with those of consciousness, and thus exclude what is now known as unconscious cerebration, we are of the opinion that the position assumed by our author is well taken, and that the definition given above is a logical outcome of his previous statements.

Then follow chapters upon reflex action and unconscious cognition, instinct, nascent reason, emotion, imagination, and volition, the mental capacities and powers of higher brutes, will, and voluntary movements, cerebral mental substrata, the cerebral relations of speech and thought, etc., all of which are discussed in an eminently suggestive manner, so that even though we cannot always entirely agree with the views expressed, we are, nevertheless, deeply impressed by the judicial fairness of the author and by the depth of his philosophical acumen—the latter, we are sorry to say, not being a universal characteristic of the medical men who have ventured to enter the field of psychology.

It is interesting to note that Bastian takes strong ground against Fenier's view with regard to the motor centres of the cerebral convolutions, and which has also been forcibly urged by the entire body of English physiologists and pathologists. His views are best expressed in his own words: "The cerebral cortex is, in our view, to be regarded as a continuous aggregation of interlaced 'centres,' toward which ingoing impressions of all kinds converge from various parts of the body; here they come into relation with one another in various ways, and conjointly give rise to nerve-actions, which have for their subjective correlatives all the sensations and perceptions, all the intellectual, and all the emotional processes which the individual is capable of experiencing. From these terminal and complexly related 'end-stations' for ingoing currents, and from certain annexes in connection therewith, outgoing currents issue, which rouse in definite ways the activity of the highest 'motor centres' (the corpora striata and cerebellum), and through them evoke the properly adjusted activity of lower motor combinations, so as to give rise to any movements that are 'desired,' or which are accustomed to appear in response to particular sensations or ideas."

But a thorough review of even a single chapter would require several pages, and we must therefore content ourselves by urging a careful study of this book upon all who manifest any interest in the subject.

As a preliminary to the study of the intimate structure of the brain, its perusal will be of great service, giving, as it does, a very fair and concise summary of most of our present positive knowledge of the topic, and in a style which is much easier of comprehension than that of systematic treatises on cerebral anatomy.

A New Case Record, General and Gynecological, for Chronic and Acute Cases, and a Complete Obstetric Record. Copyrighted by Joel A. Miner, Ann Arbor, Mich. 1880.

This case-book will no doubt be very acceptable to some practitioners, and will serve a good purpose in securing systematic records that can be easily referred to. Its method of arrangement is somewhat complicated, and some study will be required before the book can be easily used.

American Health Primers. The Skin in Health and Disease. By L. Duncan Bulkley, M.D. Philadelphia: Presley Blakiston. 1880.

This little work on the skin is one of the most complete and carefully written of the Primer Series. The author states that he has endeavored to make the book serve both as a guide for the preservation of the health of the skin and as a popular dictionary or encyclopædia in matters pertaining to dermatology. In this object he has well succeeded, and the book will have a more permanent value than most of its class. It is fully illustrated, and with excellent cuts.

Jahresberichte über die Fortschritte der Anatomie und Physiologie. Herausgegeben von Dr. Fr. Hofmann, Professor an der Universität Leipzig, und Dr. G. Schwalbe, Professor an der Universität Jena. Leipzig: F. C. W. Vogel. 1880.

Annual Reports on the Progress of Anatomy and Physiology. Edited by Drs. Hofmann and Schwalbe.

In conjunction with some of Germany's most distinguished *savants*, Profs. Hoffmann and Schwalbe publish annually these thorough and complete reports on the progress of anatomy, embryology, and physiology. Sections I. and II. of Volume VIII. are before us, fully maintaining the standard of excellence which characterized the previous volumes. The aim of the authors is not so much to present a critical analysis of recent work in the fields of these fundamental medical sciences, as to furnish an abstract and summary of what has been accomplished in them. Of course, impartial criticism is not altogether abstained from; but the bulk of the volumes is made up of condensed information regarding the progress of anatomy and physiology. Accordingly these books will be of inestimable value to all who are interested in those branches, and who, wishing to be kept *au fait* of these sciences, are unable to gain access to all the recent literature of the subjects. Merely to glance one's eye over the index will impress one with some notion concerning the vast amount of intellect and labor continually busy with the comparatively unremunerative pursuit of scientific knowledge for its own sake These reports are strictly international, no one country being neglected at the expense of another. For this very reason it is somewhat humiliating to our national pride to find so very meagre a representation in the pages of these books, while our English brethren make a very fair showing, and Germany fairly excels in elaborate monographs and exhaustive treatises, some apparently on the most insignificant of subjects. It is impossible to do more than thus indicate in general terms the character of the books before us, for any attempt to enter into the details of analysis would clearly exceed the limits of our space. It is not too much to say that these reports form indispensable works of reference to all who, engaged in anatomical and physiological pursuits, wish to keep pace with modern progress in these important branches of medical science.

Traité d'Anesthésie Chirurgicale, contenant la Description et les Applications de la Méthode Anesthésique de M. Paul Bert, par le Docteur I. B. Rottenstein, Membre de l'Académie Leopoldina Caroline, de la Société Odontologique de New York, etc. Avec 41 figures intercalées dans le texte. 8vo, pp. 428. Paris: Germer, Baillière et Cie. 1880.

A Treatise on Surgical Anæsthesia, with the Description and Mode of Application of the Anæsthetic Method of Paul Bert. By Dr. I. B. Rottenstein.

Anæsthesia for surgical purposes, ever since its discovery, has received a goodly share of attention, both professional and unprofessional. Even at the present day, when all are agreed as to the great utility of anæsthesia, the particular anæsthetic method to be chosen is still a point of much heated controversy, and will probably remain so until we shall have found a perfectly reliable and absolutely innocuous drug.

Dr. Rottenstein is apparently a dentist. Now, although this would not preclude the possibility of his giving us an excellent work, it certainly explains why his book is not so much a general and impartial treatise on surgical anæsthesia as a strong plea in behalf of a more extended employment of nitrous oxide gas administered according to Bert's method. A general treatise on surgical anæsthesia, finished, if not entirely written, in 1880, should, under the heading of rarely employed anæsthetics, certainly contain more than seven lines on the subject of bromide of ethyl. Mention might also have been made of the method of inducing partial anæsthesia by rapid breathing, and of the possibility of performing minor operations during the period of primary narcosis. Despite, however, these and other defects, Dr. Rottenstein has produced a creditable volume, which, even if it lacks originality, presents at some length and with laudable thoroughness most of our present knowledge on the subjects of which it treats. We will briefly indicate the contents of the twenty-five chapters composing the book. Chapter I. is historical, and in it the author urges the claims of Horace Wells to the title of discoverer of anæsthesia. Incidentally we may here remark that the work is adorned with a good steel engraving of that gentleman. In the second chapter the progress of anæsthesia is discussed, with nitrous oxide first in the list of anæsthetics. The following chapter is devoted to chemical "notions," nitrous oxide again coming first with ten pages, and being followed by the remaining agents with all in all nine pages. The general action of anæsthetics has a chapter by itself, and then we are treated to fifty-eight pages on the physiological action of laughing-gas, also in a separate chapter. The modes of administering anæsthetics, the accidents attending and following their use, the treatment of those accidents, and the indications and counter-indications of surgical anæsthesia, are disposed of in four chapters. The following six chapters treat of the various applications of anæsthesia in surgery, ophthalmology, and dentistry. Chapter XVI. deals with the medico-legal aspects of the subject. Anæsthesia produced by the combined action of morphine and chloroform is the subject of the following chapter, in which, by the way, we were somewhat startled to find Nussbaum, of Munich, suddenly Gallicised into Nüsbaum. Dr. Rottenstein is so evidently a Teuton, besides being the author of a German book, that there appears to be no excuse for this barbarism. Local anæsthesia is described next, and then follows the chapter giving the details of Bert's method. This gentleman's theory concerning the production of anæsthesia by the respiration under pressure of a mixture of nitrous oxide with oxygen gas has been verified by experimentation upon animals and by clinical trials on man. Theoretically, therefore, we find no fault with the method, although it must be admitted that the number of experiments is not so great as to warrant a general conclusion as to its entire and invariable immunity from danger. But at present the method must be confronted with great practical objections to its universal employment. We will mention only the formidable apparatus apparently necessary for the production of anæsthesia by this method, and the great cost of such apparatus. The author's own figures are "scarcely" $5,000 for a large receptacle able to accomodate 300 spectators, or $3,000 for a complete apparatus for 40 persons.

The remaining chapters deal with the "uses of anæsthetics in obstetrical practice," "rarely employed anæsthetics," and the comparative value of the various anæsthetic agents. The work closes with general conclusions, clinical observations, and a bibliographical index.

A Treatise on Comparative Embryology, by Francis M. Balfour, M.A., F.R.S. In two volumes. Vol. I. London: Macmillan & Co. 1880. 8vo, pp. 514.

The reputation which Professor Balfour has gained as an embryologist insures authority to the present work. It is indeed the most exhaustive treatise that has yet been written upon the subject in question. It in fact fills an almost entirely unoccupied field, since, with the exception of a small work by Packard, and the previous writings of Balfour himself, nothing but detached monographs have been written upon comparative embryology. The book, therefore, will be a necessity to all students in this department of science. The different chapters are profusely illustrated, and the typographical character of the book is excellent.

If there had been some facts in regard to comparative anatomy added to the work it would be more widely appreciated; but this does not of course alter the fact that it now stands as the authority on the subject of which it treats.

Transactions of the American Dermatological Association, with the President's Address. Third Annual Meeting, New York, 1879.

The American Dermatological Association, whose transactions are here given, is one of the most creditable of the medical organizations in this country. Though now only in its third year, it has already done work which has gained notice and high praise, both abroad and at home. The rise of dermatology and the history of the present society are fully and fittingly told in the very able address of Dr. Duhring. The activity of the members of the Association is shown by a list of their contributions to dermatology in the year 1878, a list covering over three pages. The papers in the present volume, though not numerous, are for the most part of much value practically, and have a thoroughly scientific character as well. We make no analysis of them now, because they were quite fully reported in the Record on their first appearance.

President's Address at the Maine Medical Association, June 15, 1880, by Seth C. Gordon, M.D.

We find in this short address an able plea for better medical legislation in Maine. The present laws are pernicious and absurd; and it is to be hoped that the demands for reform will be listened to.

Tunnel Trichinosis and the Cornwall Outbreak.

We have received from Dr. Cobbold a pamphlet containing some facts relative to the endemic disease which appeared among the laborers in the Mt. St. Gothard tunnel, also concerning the outbreak of fever on board the English school-ship Cornwall. Regarding the first matter, the observations of Dr. E. Perroncito are quoted, showing that the symptoms of oligæmia perniciosa, developed among the tunnel workmen, were due to the presence of two different kinds of parasites in the intestinal canal. These parasites were: *anchilostoma anguilula* and *anguilula stercoralis*. They produced identical symptoms, which are classed under the head of anchylostomosis.

Referring to the fact that several authorities had mistaken this anchylostomosis for trichinosis, Dr. Cobbold cites a like error committed by the *Lancet* regarding the Cornwall fever. In an article entitled "Trichinosis and Trichinosis" the *Lancet* asserted that the Cornwall fever was a trichinosis, when in fact no trichinæ were found at all, nor did the symptoms correspond with those of trichinosis. Dr. Cobbold states that much ignorance prevails regarding many of these parasites and the symptoms they produce.

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The Physiology of Walking.—M. Marey, by means of an ingenious instrument, called the "odograph," has discovered some interesting facts in regard to walking. It was ascertained that the step is longer in going up-hill than in going down-hill. It is shorter when a burden is carried; longer with low- than with high-heeled boots; longer when the sole is thick and prolonged a little beyond the foot than when it is short and flexible. It appears that the heel may be advantageously removed almost entirely; but it is disadvantageous to prolong the sole beyond a certain limit, or to give it more than a certain amount of stiffness. On level ground the step becomes longer in proportion to its frequency. In going up-hill the steps are longer but less frequent.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 21, 1880.

Fordyce Barker, M.D., LL.D., President, in the Chair.

The Statistical Secretary, Dr. Francis V. White, announced the death of Drs. Chas. M. Allin and J. Ellis Blake, with brief biographical sketches.

The President paid a worthy tribute to the memory of both deceased Fellows.

Dr. Goddard, of Ohio, and Dr. McDonald, of Ontario, Canada, were introduced to the Academy, and invited to seats upon the platform.

"SOME UNSETTLED QUESTIONS IN REGARD TO NASAL CATARRH"

was the title of a paper then read by Dr. F. H. Bosworth. (See page 505.)

The discussion was opened by Dr. J. H. Douglas, who took issue with the author of the paper on certain points concerning etiology and treatment. He regarded catarrh as a constitutional and not a local disease. What was ordinarily called cold in the head manifested itself first through constitutional symptoms, such as chill, fever, etc., and the symptoms of what was called catarrh came subsequently. Stenosis and hypertrophy referable to the nasal passages came subsequently to constitutional symptoms. Chronic nasal catarrh he regarded as the simple result of frequently repeated attacks of acute catarrh. In chronic nasal catarrh other parts of the body were invaded, as a rule, and his custom was always to examine the urine, and he usually found a deficiency of the salts that were physiologically eliminated by the kidneys. He also found the liver involved in most cases. His own experience had been that chronic nasal catarrh could not be cured by local means alone; but that by a combined local and constitutional treatment it could be cured.

The hypertrophy, the swollen condition, which was one of the first symptoms of nasal catarrh, could be easily relieved by reducing the sensitiveness of the mucous membrane; and his uniform plan of treatment was first to cleanse the surface of the membrane with the douche, and then make a local application of some of the preparations of opium—laudanum being that which he usually employed, from one-half to full strength. The local symptoms being relieved, he then turned his attention to the existing constitutional disturbance.

In chronic nasal catarrh, where there had been long-continued irritation of the mucous membrane, resulting in atrophy of the glands, etc., he invariably resorted to the local application of such agents as would stimulate the parts. First thoroughly cleanse the mucous membrane by means of the nasal douche, anteriorly and posteriorly, and then stimulate the tissue with heat, and afterward apply some bland agent, such as vaseline, etc. In that way there was no destruction of tissue, and the glands which were necessary to supply, properly, mucus for lubricating and protecting these parts were preserved. Again, he addressed himself to the existing constitutional disturbance with even more care than in the acute cases. He regarded the liver as a very frequent source of evil, and if defective in its action, the salts which normally should be eliminated by it must find exit through some other channel. If such morbid material did not find its exit through the kidneys, the skin, or the lungs, it was very apt to manifest its evil effects in the mucous membrane of the nasal passages. An ordinary cold in the head might be the starting-point of all that. Several of his patients had had a severe attack of jaundice with their nasal catarrh, and when they had recovered from the former, the latter was entirely relieved.

Dr. Andrew H. Smith paid special compliment to the candor of the author of the paper in mentioning the recognized and inherent difficulties in the satisfactory treatment of nasal catarrh. He thought that the more a man knew concerning nasal catarrh the less confidence he would have in his ability to treat all cases satisfactorily. Not that he believed treatment to be inoperative, for he was fully convinced that even every bad case could be materially relieved, yet he as firmly believed that certain cases could not be radically cured. The difficulties with reference to effecting a cure were numerous, and arose from various sources; but probably the first in importance was the fact that, in a majority of cases, the original cause remained operative, and from the nature of the case could not be removed. The cause might exist in some hereditary peculiarity of the patient, or some acquired diathesis, or in occupation, or peculiar atmospheric influence, and it might not be possible to change those conditions. With reference to local treatment he doubted that *spray* reached all portions of the mucous membrane of the nasal passages—that is, reached them so as to be thoroughly satisfactory. Particles of the liquid might adhere to the surface in places, but it was exceedingly difficult to cause those particles to take a deflected course. The first surface, by which they were struck, arrested the greater portion of them, so that those prominences received the greater share, while those which were situated, as it were, around the corner, escaped with almost no application whatever. He thought that the same difficulty was somewhat diminished by using powders; for the moist surfaces first touched were rendered dry, and therefore the currents and the eddies could carry the dust onward so that the surface beyond could be pretty thoroughly covered with the pulverized agent. With reference to the nasal douche, he thought that it could be used very efficiently posteriorly, and that if the stream was projected with some force the water would not observe its own level, but would reach nearly all portions of the cavity with some degree of certainty; with the exception, perhaps, of those cases in which the disease extends into sinuses connected with the nose. With reference to caustics he had of late used chromic acid, with water only sufficient to liquefy the crystals. It was sufficiently powerful to destroy at once the sensitive nerves with which it came in contact. A great objection to acetic acid was the intense pain that it produced. He had used nitrate of silver in powder a great deal and with very satisfactory results. An impalpable powder could be made by triturating sulphate of potash, ʒ j., subnitrate of bismuth, ℥ j., and nitrate of silver from 10 to 40 grains, according to the strength desired. That powder, which did not become lumpy by exposure, could be readily blown into the nasal passages without difficulty. The advantage was that this powder remained in contact with the surface of the mucous membrane for a long time, and the action, though it might be mild, was very persistent. He had obtained better results with that agent than with any which he had ever employed.

One great obstacle to effecting a radical cure was that when improvement had reached a certain point, where relief from the disease would be less than the inconvenience resulting from treatment, the patient disappeared with a remnant of the disease almost always left behind. The vast majority of people, when they ceased to be actively disturbed by the disease, ceased treatment. Again, the most healthy mucous membrane, when subjected to constant contact of foreign substances, would finally be brought into an abnormal condition, and he doubted whether they could be applied daily without themselves producing such results, especially the more powerful agents. So even if we possessed a specific local application for nasal catarrh, a time would come when the continuance of such local application would be deleterious. He fully agreed with Dr. Douglas that there was a constitutional element present in most cases of nasal catarrh. The little instrument to which Dr. Bosworth referred should be made of hard rubber instead of glass.

Dr. Asch remarked that he agreed entirely with Dr. Bosworth in his description, and essentially in the treatment of the disease so far as related to the hypertrophied mucous membrane and the enlargement of the turbinated bones. But it seemed to him that, in a great many cases the catarrh did not arise from that cause, for many cases occurred in which there was no hypertrophy nor enlargement of the turbinated bones. He believed that in such cases the lesion existed upon the posterior surface of the velum, and could be easily recognized with the rhinoscope. He also thought that, in many cases, the cause was constitutional. In all cases of chronic nasal catarrh he had obtained better results by directing attention to the constitutional as well as the local treatment than by resorting to the latter only. The principal causes and symptoms were constitutional, the local ones were accessory. He made use of Dobell's solution purely as a cleansing agent. Local applications were entirely useless so long as the mucous membrane was covered by secretion. He employed nitrate of silver, twenty to forty grains to the ounce, and had been able to control most cases of nasal catarrh that were not specially bad ones. He made his local application to the posterior surface of the velum either with a brush or a platinum probe wrapped with a pledget of cotton, and by the aid of the rhinoscope. For removing redundant tissue, when necessary, he thought the galvano-cautery was the best means that could be employed.

Dr. H. Knapp spoke of the analogy existing between certain diseases of the nasal passages, the pharynx, and the ear, and certain diseases of the eye. The two diseases of the eye which were repeated in the other passages were *trachoma* and *blenorrhœa*. At one time those affections were treated by burning away the tissues, etc., but that plan had been abandoned entirely. The vegetations, it was true, disappeared under the old plan, but the mucous membrane also; and since it was essential to have a mucous membrane for the purpose of keeping the eye smooth, such remedies were now applied as only stimulated and favored an excess of blood in the tissues, and thus caused absorption. Long-standing trachoma could be successfully treated in that way. In nasal catarrh there certainly was hypertrophy of the mucous membrane, adenoid granulation, which frequently enough had been crushed or cauterized; but, he had commonly abstained from that method, and, by resorting to mild local applications daily, for a long time, had obtained finally much more satisfactory results than when more severe measures had been adopted. He was certain that he had, by means of the posterior nasal syringe and the local use of mild agents, persisted in regularly for months, effected a perfect cure, especially in children.

With regard to the origin of the affection, there was also an analogy between it and diseases of the eye and ear. Formerly, oculists held that trachoma was a constitutional disease, but latterly it had come to be regarded as a local affection.

Dr. A. J. Chadsey regarded the cause of nasal catarrh as an obstruction of the capillaries, hence retention of effete material; and the agents most serviceable in removing that obstruction were diaphoresis and mercury. No local remedy could remove it. He also spoke of the beneficial effects produced by change of climate.

Dr. O'Sullivan spoke of the eminently satisfactory results obtained by the late Dr. Horace Green, in the use of the nitrate of silver in this particular affection, and his statements were corroborated by Dr. Douglas.

Dr. Bosworth, in closing the discussion, remarked that, while very much good could be done by the use of the spray, the douche, powders, the syringe, etc., it seemed to him the treatment of nasal catarrh should be placed upon a somewhat better basis than that. The treatment he had described could be resorted to without serious discomfort to the patient. Certainly, he had sought diligently for a diathesis which might be regarded as the underlying cause of the disease, but had failed to find it. In the majority of cases there were no constitutional symptoms. It existed in people who were otherwise perfectly well. With regard to change in climate, it was beneficial as a rule, but as soon as the patient returned the atmosphere of the old locality would again irritate the hypertrophied parts, they would respond to all kinds of irritation, and the catarrh would return.

The Academy than adjourned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Annual Meeting, October 25, 1880.

Dr. A. E. M. Purdy, President, in the Chair.

After the reading of the minutes of the last stated meeting the report of the Comitia Minora, together with the minutes of that committee during the last year, were read.

The Treasurer and the Auditing Committee then presented their reports, after which the Society proceeded with the balloting for officers, with Drs. Conrad, Mittendorf, and S. S. Jones as tellers.

While the ballots were being counted, the Committee on Ethics, through its chairman, Dr. Samuel Sexton, presented an elaborate report which dealt candidly with the many vexed ethical questions and intricacies that had been brought before them during the last year.

On motion, the report was accepted and ordered upon the minutes, with instructions that it should be printed and distributed before the adjourned annual meeting.

The Committee on Hygiene then made its report, through Dr. J. C. Peters, Chairman, and Dr. E. G. Janeway. Dr. Peters spoke in unmistakable terms of the condition of the streets of the city, the deleterious effects produced by sewer-gas, offensive smoke, stables, offal nuisances, etc. The latter had been referred to the Health Department as a complaint. Mention was made of the improved but still imperfect condition of the Fourth Avenue tunnel, to the nuisances belonging to the elevated railway, and to the filthy and overcrowded condition of street railway cars.

The Chairman also presented a report offered by Dr. Chas. C. Lee, who directed attention to the filthy condition—sufficiently filthy to constitute a nuisance—of that portion of the city lying between Sixty-seventh and Sixty-eighth Streets and Third and Lexington Avenues. It was believed to be the duty of the mayor and the controller to see that the nuisance was abated.

The report of the committee was continued by Dr. Janeway, who made special reference to the mortality in the city from small-pox, typhoid fever, and typhus fever.

With reference to small-pox he directed attention to the fact that two-thirds of the cases which had occurred during the last month, came from Philadelphia, where an epidemic of the disease seemed to be threatening. The importance of vaccination was shown, and he believed that it would be wise for the society to urge its performance.

A lamentable case was cited in which a member of the profession, in good standing, had been said to have stated that "the child" died as the result of vaccination, where the truth was that death occurred from *scarlet fever*. Should the statement be substantiated, he recommended that charges should be preferred against the member by the Committee on Ethics.

With reference to typhoid fever the mortality had been absolutely less during the last year than in any year during the last ten, with one or two exceptions readily explained by local causes. Dr. Janeway dwelt at some length upon the necessity of complete sewerage and drainage, thorough and complete disinfection of all discharges from the patient, all water-closets, privies, etc., if the best results were to be obtained in the treatment of that disease.

An interesting history of a few cases of typhus fever was given, in which the diagnosis was sustained by post-mortem examination.

The report took the usual course, and will be referred to the Committee on Hygiene of the State Medical Society.

Dr. J. C. Peters presented an additional report on the yellow fever fund, which showed that a small sum of money remained for distribution. The thanks of the society were extended to Dr. Peters for his untiring diligence in this benevolent work.

Dr. David Webster read the report from the Board of Censors, which was ordered to be entered upon the minutes.

The Society then adjourned.

Medical Statistics of Russia.—According to the report of the medical department, Russia had, in 1878, 13,475 physicians, 2,035 of which had the scientific degree of doctor of medicine, 5,100 male trained nurses (feldschers), 2,666 sage-femmes, 33 schools for trained nurses, 1,652 pharmacies. The list of physicians for 1878 was increased by 690 new names and decreased (by death) by 370.—*Vrachebn. Vedomosti*, 1880, No. 418.

[In this country, 1878, 59 medical colleges graduated 2,708 men. The number of physicians for the year being about 57,000. Population of this country is about half that of Russia.]

Correspondence.

HEREDITARY TOLERANCE OF DISEASE.

To the Editor of The Medical Record.

SIR—I am much indebted to my faithful friend, Dr. Reyburn, for a number of illustrations (THE MEDICAL RECORD, October 9, 1880, p. 417) of the correctness of the doctrines which I have previously set forth. These illustrations are sufficiently interesting to merit a more complete analysis than they have yet received.

The doctor's explanation of the mortality following the first epidemic of measles among the Sandwich Islanders is excellent as far as it goes, but it utterly ignores the fact that the knowledge "of hygiene or the proper medical treatment of such cases" constitutes no small part of that accumulated stock of hereditary influences by which the course of disease is modified wherever it becomes endemic. I do not refer now to the accumulated results of scientific observation and experiment, but to that popular stock of ancestral experience which cuts so large a figure in the domestic management of diseases with which the common people are familiar. But that this sort of hereditary influence is not alone sufficient is well shown by the experience of our army in 1862 and 1863. The soldiers to whom measles was then so fatal had the advantage of the best stock of accumulated scientific ideas that could be derived from ages of experience, and yet they died like Sandwich Islanders, or worse. Could they have had the measles at home, like other boys, no one doubts that their mothers would have nursed them successfully through the disease, perhaps without thought of scientific medical aid. Why this difference? Because, if they had been sick at home, like other boys who did not go a soldiering, they would have enjoyed the full benefit of all the hereditary influences by which they had been qualified to resist an attack of measles at home. But in the army they were placed under conditions entirely different from those in which they were born, and to which their race had become adapted. Consequently, all their ancestral inheritance of tolerance was lost to them. They found themselves placed under conditions for which the centuries had never prepared them, and they could not resist that combination of forces against which their constitutions had never been fortified. In like manner, when a city like Kiel, to which Dr. Reyburn has made allusion, receives a sudden and artificial increment of population, it always contains a great number of individuals dislocated from the environment to which their constitutions had, by influences hereditary and personal, become adjusted. Such persons, such families, yield a ready harvest for epidemics; and diseases, ordinarily benign, assume among them a great fatality. In course of time, however, the population, under the influence of natural selection, becomes adjusted to its new environment, and the mortality of epidemics, as well as their general pervasiveness, is correspondingly diminished. In this respect the visitations of small-pox in Europe before the days of Jenner contrast most instructively with the epidemics which swept away the American Indians. The Indians, unprotected by hereditary experience of the disease, were almost exterminated, while relatively the Europeans and the Asiatics were scarcely diminished in numbers by its almost constant prevalence. A better illustration of the value of hereditary protection could hardly be desired.

In this connection I may reply to Dr. Reyburn's question, "Why inoculation was abandoned if it be true that it is necessary to preserve the virus of epidemics in the community?" Simply because a method of securing a sufficient protection by a greater attenuation of the virus of small-pox was discovered. Inoculated small-pox represents the first degree of attenuation of small-pox virus, while vaccine disease represents its second degree of attenuation. It was once supposed that variola and vaccinia were separate and distinct diseases; but now we know, thanks to the labors of Mr. Ceeley and his pupils, that the last, which we propagate with such care, is merely small-pox modified by passage through the body of the cow. Had we not learned how to effect this additional attenuation, inoculation would still be our best means of protection against the virulent form of the disease.

Dr. Reyburn declares that in Great Britain "the mortality from scarlatina is just as great as it was a century ago." It is very likely that his assertion may be correct. Such a fact would not, however, militate against the doctrine of hereditary tolerance of disease. It is a matter of continual observation that in a rapidly increasing population, suddenly exposed to newly organized conditions of existence, scarlatina is much more prevalent than in old and stable communities where changes are almost inappreciable. Now, Great Britain has for a century past been the arena of the most remarkable *fermentation* and change that could unsettle any population. The introduction of steam has more profoundly altered the conditions of existence for the English than for any other people, and the British race has not yet had time to adapt itself to these profound modifications of its environment. Consequently, all the conditions for extensive prevalence of scarlatina among the British islanders have been maintained with great perfection. After a time an equilibrium will be established, and scarlatina will become less prevalent, without any reference to, or influence by, the new-fangled attempts at quarantine of the disease.

Dr. Reyburn asserts that "not only is heredity no protection from epidemics, but in some cases the mortality from them is actually increasing." He then calls attention to the increasing mortality from intestinal diseases which has been noticed in England. This fact, by itself, has no bearing upon the discussion. It merely serves to illustrate the fact that man can neither create nor destroy force. He can simply modify its direction and the mode of its incidence. "Stamp out" one disease, and another will inevitably spring up in its place. Diminish the prevalence of scarlatina, diphtheria occupies the field. Ravage a city with scarlet fever during the winter, fewer cases of cholera infantum will be numbered during the succeeding summer. There is for every population a certain mean about which all mortality tends to equilibrate.

My friend thinks that the prevalence of typhus fever in Spain and its absence in the United States are sufficient to prove that heredity and natural selection have no modifying influence over the spread of zymotic diseases. I cannot admire such logic. The question is not as the doctor seems to conceive it. The question is not whether heredity and natural selection will extirpate disease, but whether they will not evolve a population more tolerant of the diseases with which it is continually acquainted than a population for the first time exposed to the influence of the same diseases. The history of cholera in the portions of India where it is endemic throws much light upon the proper answer to this question. As the doctor has stated, it is among "the unfortunate pilgrims who perish every year of the pilgrimage" that the greatest mortality from cholera is observed. They are the people who are unacclimatized in the district—dislocated from the environment to which they had been adjusted by heredity and natural selection—thrown upon conditions for which they had never been adapted. Cholera must necessarily take such victims at an enormous disadvantage. The inhabitants of the cholera district only find themselves in a similar position of disadvantage when famine or war destroy all the defences which natural selection had built up.

A similar illustration is furnished by the experience of the colored people in the Southern States. Descended from a race which from time immemorial had been in process of continuous adjustment to the most deadly forms of malaria, the former slaves were remarkably tolerant of the malaria in our Southern States. It is noticeable that with an increasing distance from the parent stock in Africa, that tolerance which the American negro inherited from the African is diminishing. The process of natural selection relative to malaria is not as vigorous in this country as in tropical Africa.

The history of yellow fever teaches with equal clearness the value of natural selection and hereditary tolerance as agents for modifying the danger of disease. Among the native West Indians yellow fever is scarcely feared. The greatest mortality is among the newly imported foreigners who have never been adjusted to its causes. It is not among the creoles of Louisiana that this disease is most terrible; it is among the exotic inhabitants of Memphis, and in a population where the disease is never endemic, that its havoc is so frightful.

In fact, the influence of natural selection, and the hereditary resistance thus elaborated during successive generations, is so universal and so pervasive that, like the air in which we live, it is seldom noticed by superficial observers.

The explanation which Dr. Reyburn offers, to account for the comparatively uniform rate of mortality in England, is hardly satisfactory, though it does express certain of the causes which everywhere militate against the longevity of the race. Emigration from the British islands has been going on with great activity for two hundred years, consequently that factor can hardly be said to have exerted any extraordinary influence during the last forty years. Nor is the withdrawal of the vigorous emigrant class necessarily a source of enfeeblement to those who remain behind, and who find additional room and an increase of food as a consequence of diminished competition.

As for the "vast and alarming increase" of intemperance "in Great Britain of late years," the student of history knows that relatively to the increase of population this vice has long been diminishing in Great Britain. Compare the condition of the English a hundred years ago with their present condition, and it is evident that temperance has greatly increased during the intervening period. The authorities quoted by Lecky in his various historical works, exhibit a most instructive picture of that age in contrast with the present. As for the "wilful disobedience to the laws of health and hygiene by the people of England," I have no doubt that it is bad enough, but I do not believe that it has been any worse during the last forty years than during the preceding forty thousand years. And yet Dr. Reyburn tells us that the men of old could not compare with their descendants in physical vigor and size. Scientific men see in this the result of natural laws which are everywhere and always in operation. By these ever-acting forces the races which inhabit the earth are exactly adjusted to their environment, and a perfect equilibrium is thus maintained. The true way to improve the condition of mankind is to study the methods of nature, and to follow in the light of the experiments which have been so frequently performed on the grandest scale—for our benefit, one might almost say. In this connection the medical history of isolated races, like the Pacific Islanders, the annals of pestilential epidemics, the experiments of Ceeley in the attenuation of the virus of small-pox, the kindred experiments of Pasteur with fowl-cholera, and of Toussaint with charbon, are fraught with an importance not yet suspected by the average unscientific sanitarian. Would such people but attend to the well-known facts of chemistry, physiology, and biology, instead of urging a promiscuous activity like that of a bull in a china-shop, they would soon learn that "inaction" may often be the result of the highest wisdom.

One more extract from the eloquent author whom I have previously quoted, and I have done:

"Any one who has been, what Bacon recommends—a servant and interpreter of nature, no longer regarding the mere outside of things—has learned to look for the secret forces by which they are upheld. After patient study this chaos of phenomena, into the midst of which he was born, has begun to generalize itself to him; and where there seemed nothing but confusion, he can now discern the dim outlines of a gigantic plan. No accidents, no chance; but everywhere order and completeness. One by one exceptions vanish, and all becomes systematic. . . . . But, above all, he is struck with the inherent sufficingness of things, and with the complex simplicity of those principles by which every defect is being remedied—principles that show themselves alike in the self-adjustment of planetary perturbations, and in the healing of a scratched finger—in the balancing of social systems, and in the increased sensitiveness of a blind man's ear—in the adaptation of prices to produce, and in the acclimatization of a plant. Day by day he sees a further beauty. Each new fact illustrates more clearly some recognized law, or discloses some inconceived completeness, contemplation thus perpetually discovering to him a higher harmony, and cherishing in him a deeper faith.

"And now, in the midst of his admiration and his awe, the student shall suddenly see some flippant red-tapist get upon his legs and tell the world how he is going to put a patch upon nature! Here is a man who, in the presence of all the wonders that encompass him, dares to announce that he and certain of his colleagues have laid their heads together and found out a way to improve upon the Divine arrangements! Scarcely an idea have these meddlers got of what underlies the facts with which they propose to deal—as you shall soon find on sounding their philosophy—and yet, could they carry out their pretensions, we should see them self-appointed nurses to the universe! They have so little faith in the laws of things, and so much faith in themselves, that were it possible, they would chain earth and sun together lest centripetal force should fail! Nothing but a Parliament-made agency can be depended upon; and only when this infinitely complex humanity of ours has been put under their ingenious regulations, and provided for by their supreme intelligence, will the world become what it ought to be! Such, in essence, is the astounding creed of these creation-menders."

HENRY M. LYMAN.

CHICAGO, ILLINOIS.

SANITARY ADMINISTRATION AND EPIDEMIC DISEASE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—In the discussion which has been carried on in your columns on sanitary administration and epidemic disease I cannot but believe that Dr. Reyburn has allowed his interest in a favorite theory to warp his otherwise good judgment. It ought to be superfluous in this age to be compelled to show why heredity does necessarily influence disease. To do it is only to go over the known ground that has given the principle of natural selection its firm place among known scientific truths. The only question would seem to be, to what extent this influence is exerted, and whether in some cases it may not be relied upon to the exclusion of measures tending to repress or stamp out the disease. Dr. Lyman's illustration of the influence of vaccination on small-pox is hardly a fair one. There is no direct evidence to show that the unvaccinated individual of to-day is better protected from an attack of small-pox because his ancestors for the last five generations have been vaccinated, although, reasoning from analogy, it is quite probable that he is. But I think this country does furnish an illustration directly bearing on the subject. The population of New Mexico is made up of Americans and Mexicans, the native population being mainly a mixture of the ancient Aztec, or Pueblo Indian, with the Spaniard. Among the natives there has never been any attempt to prevent or avoid small-pox; the patients are never isolated, and in its treatment the contagious character of the disease seems to be entirely disregarded. This has been the case as long as we have any record, probably for two hundred years—long enough any way, considering the contagious and fatal character of the unmodified disease, to allow the principle denounced by Dr. Reyburn a fair test.

Now, this is the result: among adults the disease is very little regarded. Occasionally we hear of a severe and even fatal case, but in general it is not considered as a dangerous or even troublesome disease. It is different with children; the germs of the disease are generally to be found somewhere in the community, and a child susceptible of contagion is reasonably certain to be exposed, and among children the mortality is still considerable. Inoculation is practised to some extent, but vaccination is the exception, not the rule.

In the absence of statistics it is not right to draw general conclusions. I can only give my own opinion and belief, founded on my own observations during the last twelve years; and my belief is that the total mortality from small-pox, young and old, among the native population, does not exceed the proportionate mortality in a community protected by vaccination. It may be a little more.

This protection I attribute entirely to the influence of natural selection in persistently weeding out those subjects capable of contracting the disease in a severe or fatal form, and breeding from the survivors. Now, whether the present comparative immunity, with its prospect of complete protection, has *paid*, is a question for moral economists to determine. It has been gained at the expense of many individuals who would otherwise have passed away by fever, famine, or some one or other of the thousand different modes of torture by which nature puts an end to everything that lives, so that even, irrespective of present benefit, it would be hard to say now that they were not mercifully destroyed.

L.

LA MESILLA, NEW MEXICO, October 16, 1880.

THE MEDICAL LAW OF KANSAS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—In the RECORD of the 16th ult., in commenting on the recent publication of Dr. Hardwicke, you gave *his* list of states "that have no medical laws whatever," in which is included the State of Kansas. If Dr. Hardwicke simply wished to be ironical, he is, perhaps, correct, but literally he is not. *We have* a law regulating the practice of medicine in this state, passed by the last legislature, which went into effect June 1, 1879. By the operations of this law three medical boards were recognized, viz., Regular, Homœopathic, and Eclectic, to be appointed by their respective state societies as having authority to license the following persons to practice medicine: first, physicians having a diploma from a medical school in good standing; second, persons passing an examination before the Boards. By a paragraph in the law, persons who had been in continuous practice within the state, for five years, were exempted from these provisions.

It will be observed also that since the 1st of April, 1880, the Boards have no authority to grant license to others than graduates of medical institutions. The Boards received from candidates, as fees, in case of diploma five dollars, where examination was made, twenty dollars. These fees, after paying salary and expense of Board, were turned into their society. Now as to its practical workings:—I have before me a report of the examining board of the Kansa Medical Society, made to that society at its last annual meeting in May, 1880, from which it appear that up to that time 663 certificates to practice had been issued by the Board to graduates of medica schools, 148 persons had been examined by the Board and received permit to practice, and 11 persons had failed in examination. The report say "many of whom we found ignorant of the firs principles of medicine." The law provides that a applicant failing to obtain a permit from eithe Board is debarred from reapplying for one year, th "report" on this subject says: "They (the Electi Board) have also issued certificates to numerou persons who were previously rejected by you Board," and this in direct violation of the words o the statute, and further the "report" reads, "W venture the remark that no reputable physician ha taken a certificate from the Eclectic Board." Thi *remark* will doubtless be taken *cum grano salis* b persons outside the profession, and is not entirel correct, but unfortunately very nearly so.

Shortly after the law went into effect, the bullet headed individual who holds the office of Attorney General to the state (and who pre-eminently confirm the oft-repeated assertion that Kansas was neve guilty of electing a lawyer to that position), formulated an "opinion" that the Kansas Medica

Society "had no legal existence" (having been chartered while the state was a territory), and was therefore incompetent under the law to grant permits to practise.

This *opinion* was at once published broadcast over the state by the Eclectic Board who had obtained it, who also addressed circulars to the physicians that had been licensed by the Kansas Society, notifying them that they were practising in violation of the law, and *offering to issue an Eclectic Board license on receipt of the proper fee.*

The Eclectic Board had become, it seems, a sort of "home for friendless," and in *consideration* of the fees allowed by law threw its protecting mantle over the irregulars of all shades and complexions. The *report* says: "twenty-nine applicants were rejected by the Eclectic Board," a number of whom *have since* received certificates from said board. It is possible that their legal adviser, the Attorney-General, furnished them another "opinion" that permitted this. From my knowledge of the personnel of some of their licentiates, I can conceive nothing but a *deficiency in the consideration* that would cause the rejection of a candidate.

The salutary effects of the law, thus far, has simply been *nil*; it has probably not prevented fifty persons in the state from practising medicine. Its future effects are yet to be seen. The granting of "permits to practise" on examination by Boards of different schools of medicine is pernicious in the extreme, as has been fully demonstrated here, and although it might work hardship on sparsely settled communities to be deprived of the service of a physician by reason of his not being a graduate, in a short time this would have been remedied and the enforcement of proper laws would have sent those who really possessed qualifications for the practice of medicine to the schools for diplomas and relieved the state of its quacks and impostors.

I remain
Yours very truly,
M. F. Leary, M.D.

Gaylord, Kansas, Oct. 19, 1880.

Obituary.

EDOUARD SEGUIN, M.D.,

NEW YORK.

Dr. Edouard Seguin died at his residence in this city on the 28th ult., at the age of sixty-eight years.

He was born at Clamecy, France, January 20, 1812. Soon after completing his education at the colleges of Auxerres and St. Louis, in Paris, he began his studies upon the physiological education and training of idiots, a study of which he was the originator, and in which he became the master. It was in 1837 hat he first undertook the treatment of an idiot boy, n the study of whose case he benefited from the advice of Itard and Esquirol, his teachers. Before 839 Dr. Seguin instituted the first school for idiots, which was the parent establishment of seventy-five nstitutions for idiots since opened in civilized countries. Of these, the eleven schools in the United States which he helped to organize are among the most prosperous. Shortly after the revolution of 848 Dr. Seguin came to this country, spending the ensuing ten years in Ohio, at first in Cleveland, and atterly in Portsmouth. He subsequently revisited France, and on returning to the United States settled in this city, where he completed his studies, graduating an M.D. at the University College in 1861. A year later he was elected a member of the American Medical Association. In 1866 he began to devote much of his time to a special study of medical thermometry, and to his work and writings in this direction the profession of this country is greatly indebted for the introduction and popularization of the clinical thermometer.

In 1873 Dr. Seguin was made United States Commissioner on Education at the Vienna Exposition. At this time he examined the educational systems in nearly all parts of Europe, but paid especial attention to the kindergartens of Germany, and the *salle d'asyle* of France. His studies included also the education of deaf-mutes and of idiots. To this work he brought the qualities of intelligence, enthusiasm, and extensive scientific knowledge, and his final report forms one of the most valuable of educational documents. It has been reprinted and has gone through several editions, the last of which was published quite recently. His studies at that time led to the production of his memoir on Garden Schools, recently read before the New York Academy of Sciences. In this he proposed to incorporate with our existing public school system a method of outdoor training, to develop alike the muscles, the special senses, and the intellectual faculties, by means of natural history studies at the Park. The essay met with a cordial reception by the Academy, but it was in advance of the time, or at least of our municipal politics, and it awakened no general interest.

Of late years, Dr. Seguin had been interesting himself in efforts to introduce the metric system into medicine in this country. His work in this direction is familiar to all. As delegate from the American Medical Association in 1879, he did much toward starting the movement in England. He also presented the subject, during the same year, at the International Medical Congress, and at the French Association for the Advancement of Science.

A list of the writings of Dr. Seguin best gives an idea of the extent and direction of his studies. They are as follows: "Hygiène et Education des Idiots," 1843; "Images Graduées à l'Usage des Enfants Arriérés et Idiots;" "Traitement Moral, Hygiène, et Education des Idiots et des autres Enfants Arriérés," 1846; "J. R. Pereire, Premier Instituteur des Sourds et Muets en France," 1847; "Historical Notice of the Origin and Progress of the Treatment of Idiots," translated by Dr. J. S. Newberry, 1852; "Idiocy and its Treatment by the Physiological Method," revised by a son of the author, Dr. E. C. Seguin, in 1866; "New Facts and Remarks Concerning Idiocy," 1870; "Medical Thermometry," 1871; "Prescription and Clinic Records," 1865–1877; "Mathematical Tables of Vital Signs," 1865–1877; "Thermomètres Physiologiques, Manual of Thermometry for Mothers, Nurses, Teachers," etc., 1873; "Official Report on Education at the Vienna Exhibition of 1873," published in 1875; "International Uniformity in the Practice and Records of Physic," and "Medical Thermometry and Human Temperature," 1876; "The Physiological Training of the Idiot's Hand," 1879.

Although Dr. Seguin was intelligently informed on all medical matters, and although he interested himself specially at times in medical thermometry, the metric system, and other subjects, his claim to permanent remembrance will lie in the work he did for the education of idiots. He was the first to introduce a system of intelligent training for these unfortunates, based upon thorough knowledge of their physiological and anatomical peculiarities. The problem which, at the very first, he set before himself, was to develop to its utmost the scant nervous centres of the idiot. To this problem he brought an unflagging enthusiasm, constant industry, a well-stored and original mind; and his work resulted in the wide establishment of a system of educational training which will remain a perpetual monument to him. By an enthusiasm that could not be dampened either by lack of sympathy or the approach of old age; by an originality which could conceive and an ability which could create a new and beneficent educational system, Dr. Seguin has won a name which will not be forgotten.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 24, 1880, *to October* 30, 1880.

Baily, E. I., Lieut.-Col. and Surgeon. When relieved by Surgeon Moore, to proceed to Wilmington, Del., and report, by letter, his arrival to the Surgeon-General. S. O. 232, A. G. O., October 28, 1880.

Moore, Jno., Major and Surgeon. Relieved from duty with Army Medical Examining Board in New York city, and to report in person to Commanding General, Department of the Columbia, for duty as Medical Director of that Department. S. O. 232, A. G. O., October 28, 1880.

Spencer, W. C., Major and Surgeon. Assigned to duty at Fort Snelling, Minn. S. O. 129, Department of Dakota, October 25, 1880.

White, C. B., Major and Surgeon. To report in person at the expiration of his present leave of absence to the Adjutant-General of the Army, for special duty in connection with the Recruiting Service. S. O. 229, A. G. O., October 25, 1880.

Caldwell, D. G., Capt. and Asst. Surgeon. Assigned to duty as Post-Surgeon at Fort Fred. Steele, Wyo. Ter. S. O. 98, Department of the Platte, October 20, 1880.

Wood, M. W., Capt. and Asst. Surgeon. At the expiration of his present leave of absence, to report in person to Commanding General, Department of the East, for assignment to temporary duty. S. O. 232, C. S., A. G. O.

Burton, H. G., 1st Lieut. and Asst. Surgeon. Granted leave of absence for two months, with permission to apply for one month's extension. S. O. 230, A. G. O., October 26, 1880.

Cunningham, T. A., 1st Lieut. and Asst. Surgeon. Granted leave of absence for six months, with permission to go beyond sea. S. O. 227, A. G. O., October 22, 1880.

Intestinal Obstruction for Seventy Days, from Stricture of the Rectum.—Dr. D. W. Coble, of Westerville, Ohio, reports a case of the above occurring in a farmer aged twenty-eight. The stricture was annular, non-malignant, and apparently the result of the dysenteric ulcerations. Strange to say, there was no stercoraceous vomiting during the whole sickness. Lumbo-colotomy was performed by Dr. J. W. Hamilton, of Columbus, Ohio, but too late to save the patient.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending October 30, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Oct. 23, 1880.	0	11	82	1	9	97	1	0
Oct. 30, 1880.	0	19	66	5	5	98	3	0

Dr. Roosa's Lecture on Constitutional Diseases.—Dr. Geo. T. Stevens writes: In the Record of October 9th is published a lecture by Dr. D. B. St. John Roosa in which he criticises certain of my views that have appeared in various publications. To sustain and strengthen his criticisms, he cites a case which he attributes to me and which he calls a "specimen case," and "which," he says, "induced me to speak to you on this subject."

In a letter from the author of the lecture I am informed that the case thus recited is one concerning which I have perfectly clear recollections; and I am prepared to say that the advice which Dr. Roosa represents me as having given was never rendered by me in this case.

It is hardly necessary for me to criticise further a paper the central supposed fact in which is a case concerning which the author had no correct information; and it is perhaps not surprising that an author who bases his criticisms upon supposed advice, of which he is only informed by rumor, should suspect that the views of others may be "founded upon incorrect observations."

The Cartright Lectures.—The first course of the Cartright lectures of the Alumni Association of the College of Physicians and Surgeons will be given by Prof. Roberts Bartholow, of Philadelphia, at the college on Tuesday evenings, November 9th, 16th, 23d, 30th, and December 7th and 14th.

Reception by the Council of the National Association for the Protection of the Insane, and the Prevention of Insanity.—There will be a reception given by the above council at parlor (D. R.), Fifth Avenue Hotel, Thursday evening, November 11th, at eight o'clock. A paper giving an account of visits to many of the large asylums in England, Scotland, Germany, and France, will be read by Dr. G. M. Beard. There will be remarks and discussion by other members of the council and society. Among those expected to be present are: Dr. H. B. Wilbur, of Syracuse; Dr. Nathan Allen, of Lowell; Dr. E. C. Seguin; Dr. J. C. Shaw; Dr. Putnam-Jacobi; Hon. Vincent Collyer; A. A. Chevaillier, and others.

All who feel any interest in the vital questions relating to the present rapid increase of insanity, and the treatment of its victims, are cordially invited to be present.

American Academy of Medicine.—The next meeting of the American Academy of Medicine will be held in this city on the third Tuesday in September, 1881.

Original Communications.

AN ACCOUNT OF A SERIES OF COMPLICATED CASES OF TYPHOID FEVER TREATED AT THE EPISCOPAL HOSPITAL, PHILADELPHIA.

Service of Dr. Louis Starr.

By T. H. CATHCART, M.D., Ph.D.,

EX-RESIDENT PHYSICIAN, EPISCOPAL HOSPITAL.

The following cases of typhoid fever, which I wish to present for consideration, show complications which, if not unique, are still uncommon. They have been selected from a number treated in the wards of the Episcopal Hospital, Philadelphia, during my residence there as an interne. It is my desire to simply place them on record, to establish the fact that such departures from the ordinary ensemble of typhoid fever symptoms do occur, to give to each just that amount of consideration to which its importance entitles it, and not to advance any theory or new line of treatment for the subject in question.

Case I.—*Typhoid fever complicated with hysteria and vicarious menstruation.*—Ida W——, aged seventeen years, a domestic, was brought to the hospital on December 25, 1879. At the time of admission she was in a semi-unconscious condition, and the only history that could be obtained from her friends was that the attack had begun one week before with malaise, headache, fever, and diarrhœa; that she had been greatly agitated when told that she was to be taken to the hospital, and had soon after passed into the semi-unconscious state. Her body was well nourished, her skin hot and dry, her face flushed, and her pulse feeble. Her tongue was moist, covered with a heavy white fur in the middle, and tremulous. Her abdomen was distended, and there was slight gurgling, on pressure, in the right iliac region. The typhoid eruption was well marked. The lungs and heart were healthy. The urine contained a slight trace of albumen. On the evening of admission the axillary temperature was 105° F., the pulse 102 and feeble, and there was active delirium. A diet of milk and beef-tea was ordered, four cachets (each containing five grains of sulphate of quinia) were administered in the course of an hour, and ten grains of carbonate of ammonia were given every three hours during the night.

Next morning, December 26th, the temperature had fallen to 103°; the pulse was very weak. She was apparently comatose, but, her eyes being wide open and fixed, the pupils dilated, and the lids tremulous, her face had rather a hysterical expression. After great coaxing she could be induced to swallow a small quantity of milk, but there was so much delay and difficulty about the process that both food and medicines were administered by the rectum. The bowels were loose. The urine was now free from albumen.

On the following day, December 27th, the patient, while still refusing to speak, to protrude the tongue, or to swallow food, was so restless that it was necessary to remove her from the ward and allow her to lie upon a mattress placed on the floor in a separate room, and even then it was difficult to keep her covered with the bed-clothing. In this condition, seemingly unconscious of all that took place about her, she remained until the evening, when her mother, who had not visited her before, came into the room. The girl instantly recognized her, spoke rationally, giving an account of many of the occurrences of the previous twenty-four hours; eagerly swallowed milk and punch, taking the cup from her mother's hands; and voided a quantity of colorless urine. During the night, though responding to questions only in monosyllables, she put out her tongue when requested, and swallowed freely; as morning approached she relapsed, and so remained until her mother reappeared in the evening.

On December 29th she was much more quiet, and was put into bed again. From this time there was no trouble in getting her to swallow food (milk, beef-tea, milk-punch) and medicine (15 gtt. tr. digitalis thrice daily, and five grains of carbonate of ammonium every four hours), quinine being administered by the rectum. Her bowels continued loose for five or six days. The hysterical complication was occasionally evinced by "laughing-spells," though there was no return of the grave symptoms. The temperature ranged from 103° in the morning to 105° at night, and the pulse from 104 to 120 until January 1st, the beginning of the third week of the fever.

During the third and fourth weeks there were no unusual symptoms, the fever gradually subsiding, and the hysterical manifestations entirely disappearing. On January 15, 1880, the commencement of the fifth week, the temperature was normal and the pulse was strong and full, counting from 80 to 100 beats per minute. On January 23d the patient was seized with cramps in the lower part of the abdomen and inability to retain her urine. The temperature rose from normal to 100.5°, and the pulse became frequent. Twenty-four hours later she vomited twelve ounces of bloody liquid and complained of weakness and abdominal tenderness. Now, as there had been no hemorrhage from the bowel, nor from the nose into the pharynx, it was difficult to fix upon the cause of the hæmatemesis, until it was ascertained that it was the time in the month for the catamenial flow; the bleeding was then considered to be vicarious. The subsequent course of the case was a steady progression toward health. She left the hospital strong and well—weighing 111 pounds—on March 10, 1880.

The clinical history of this case is interesting from the fact that in none of the journals or text-books have I been able, after diligent search, to find any record of the occurrence of vicarious menstruation during the course of typhoid fever, nor any statement of the existence of hysteria as a complication of the latter. That the semi-comatose state was really hysterical in nature was demonstrated by the girl's rapid transit from a condition of oblivion to one of complete consciousness, in which she recognized her mother, talked rationally, and swallowed freely. Minor items in proof are the mode of onset and cause of the first attack, the peculiar expression of the face during its continuance, and the passage of a large quantity of colorless urine at its termination. Dr. Gairdner ("Clinical Medicine," Edin., 1862) has called attention to a condition simulating this, and Murchinson ("Continued Fevers," Lond., 1873) states that he has met with cases answering more or less to his description; but nowhere have I been able to find any account of hysteria and vicarious menstruation complicating the progress of an attack of typhoid fever.

Case II.—*Typhoid fever followed by pleurisy.*—Henry K——, aged twenty-two years, a native of

Germany, was admitted to the medical ward, Sept. 1, 1879. He was a butcher by occupation, temperate in his habits, and had had only one illness since childhood, namely, an attack of tonsillitis in the spring of 1878.

The typhoid fever began four days before admission. It was ushered in by rigors, lassitude, headache, epistaxis, and diarrhœa. It ran a course of moderate intensity, the axillary temperature never running higher than 104°, the pulse ranging from 96 to 100 beats per minute, and the nervous system being little affected. The abdominal symptoms, however, were very well marked. The treatment consisted of a prescription containing four grains of sulphate of quinine with fifteen minims of dilute muriatic acid, and a mixture of five minims of oil of turpentine and an equal quantity of dilute muriatic acid, administered alternately at intervals of two hours; the diet was exclusively milk, and from two to six fluid ounces of whiskey in the form of milk-punch were given daily.

On September 20th, 21st, and 22d the temperature was normal, ranging from 98° to 98.5°, and convalescence seemed to be well established. On September 23d, however, there was a sudden change in his condition. The face became pale and anxious, he moved about uneasily in bed, and complained of a sharp pain in the left hypochondriac region. The respirations were shallow and much increased in frequency, counting 44 per minute, but a physical examination of the heart and lungs furnished negative results. The abdomen was tense and tympanitic, there was tenderness on pressure along the left costal border, and the abdominal respiratory movements were suppressed. His tongue was coated, there was anorexia, and during the preceding twenty-four hours there had been one scanty evacuation from the bowels. The pulse rose from 84 in the morning to 120 in the evening, and the temperature from 98.5° to 104° ; notwithstanding this rise in the temperature, several times during the day the hands and feet felt cool. Peritoneal inflammation being suspected, one grain of opium was ordered every three hours, a light flaxseed poultice was applied over the lower part of chest and the whole of the abdomen, and the milk diet and milk-punch were continued as before.

On the 24th the temperature fell several degrees, but the pulse became more frequent—136 per minute. The coolness of the extremities was no longer noticed, the respiration was less hurried, and as the opium asserted its influence he grew much less restless. On account of the frequency and weakness of the pulse, moderate doses of digitalis were added to the other treatment.

On the 25th the temperature at both the morning and evening observations was 100°, the pulse 124–128, and the respiration 28. Tenderness on pressure was still present in the left hypochondrium, though the abdomen was more flaccid, and there was some movement of the abdominal muscles on the right of the median line in respiration; over the lower third of the left chest, antero-laterally, a loud, rasping friction-sound and a well-marked friction-fremitus were perceptible, and percussion elicited diminished elasticity and transmitted gastric tympany; the cardiac apex was elevated and pushed to the right.

September 27th, while there was little change in the temperature and pulse, the repirations became more frequent. On the left side of the chest there was flatness and increased resistance on percussion from the third to the seventh rib, and below this point increased resistance and tympanitic percussion-sound; near the upper margin of flatness friction-sounds and fremitus still existed, and at the base there was tubular breathing. The heart was forced still farther to the right, the apex-beat being situated just to the left of the left edge of the sternum, in the fourth interspace. There was much improvement in the appetite, and the abdomen was more natural in appearance, the abdominal respiratory movements being re-established. The pain was less and the opium was reduced to half a grain every three hours.

September 30th the opium was discontinued and the prescription containing quinine and dilute muriatic acid resumed. From this date to October 15th the pleuritic effusion gradually disappeared and the heart returned to its normal position. The temperature varied from 98° or 99° in the morning to 100° or 101° in the evening, the pulse gradually fell to 96, and the respirations numbered from 20 to 28 per minute. Despite every precaution a large bed-sore formed over the sacrum. After October 15th the temperature fell to the normal line, and he improved steadily, but very slowly. The doses of digitalis and the stimulants were gradually reduced, the diet cautiously increased, and the quinine mixture steadily continued.

He left his bed for the first time on December 1st, and weighed 117 lbs. He was discharged December 30th in excellent general condition; the heart was in its normal position, no evidences of the pleuritis remained, the bed-sore was entirely healed, and he weighed 136 lbs.

Pleurisy with more or less effusion is a sequel of rather rare occurrence. Louis[*] reports that it existed in 2 of 46 of his cases; Murchison[†] in 6 out of 19; and Liebermeister[‡] states that in 1743 cases of typhoid fever treated in the Basle Hospital it was observed in 64. It is apt to terminate, unless early recognized and treated, in empyema, and of course the prognosis is made by its presence more unfavorable and uncertain. As causes, irritation due to the blood being charged with fever-poison, the adynamic state of the system, and exposure to draughts of air, may be cited. Cold baths, wet packing, or sponging, do not, according to the extensive observations of Liebermeister, favor its development, but rather tend to make it—as well as other affections of the respiratory apparatus—occur more rarely, and cause it to run its course with less severity than any other treatment which is not antipyretic.

Case III.—*Typhoid fever with albuminuria.*—Jacob ——, aged nineteen years, a butcher by occupation, was admitted to the hospital, October 13, 1879. He had suffered from bronchitis during the winter of 1878, but stated that he had never had any other severe illness. The first symptoms of typhoid fever were noticed two weeks before admission, though he did not become ill enough to quit work until about one week later.

When first seen, on October 13th, his face was flushed, both the upper and lower eyelids were puffy, he complained of headache, thirst, and anorexia, and his tongue was heavily coated in the centre with a white fur. The bowels were loose, and there was some abdominal distention, with tenderness and gurgling in right iliac region. The axillary temperature at 6 P. M. was 105.3° and the pulse 94.

The morning urine of October 14th was acid, had a spec. grav. of 1.016, was cloudy and highly albuminous; no casts could be found on careful microscopic examination.

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[*] Recher. sur gastro-entérite. fièvre putride, adynamique, Paris, 1829.
[†] Murchison, op. cit., p. 634.
[‡] Ziemssen's Cyclop. of Medicine, New York, 1879, p. 173.

The type of the fever proved to be quite severe. The evening temperature for the first four days of treatment was above 104°, and for the succeeding eight days above 103°, the morning remissions being slight. The pulse ranged about 90, and only on one occasion reached 108. The eruption was well marked. There were several profuse hemorrhages from the nose, a harassing, spasmodic cough, resulting from catarrh of the larger bronchial tubes, and a tendency to wakefulness and occasional delirium. The tongue soon became dry and the teeth covered with sordes; the abdominal distention increased, and the diarrhœa gave place to constipation. There was rapid loss of flesh.

The patient was fed entirely upon milk; he had four fluid ounces of whiskey, in the form of milk-punch, during the day, a mixture of sulphate of cinchonidia and dilute muriatic acid at intervals of four hours, and also, in the second and third weeks of treatment, five drops of oil of turpentine with an equal quantity of dilute muriatic acid every four hours, alternating with the cinchonidia mixture. Hypodermic injections of $\frac{1}{6}$ to $\frac{1}{4}$ gr. of sulphate of morphia were administered when required to produce sleep, and enemata were employed every twenty-four or forty-eight hours when the bowels became confined.

The temperature commenced to remit on October 29th, the beginning of the fourth week of the fever, and fell to the normal line on the 4th of November. The diet was now cautiously increased; he was placed upon citrate of iron and quinine, and a small quantity of sherry wine (four fluid ounces) was substituted for the punch. He left his bed for the first time on December 2d; at that time he weighed 131 pounds, and the albumen had entirely disappeared from his urine.

After this he improved rapidly. On December 30th, the date of his discharge, he weighed 160 pounds, and felt perfectly strong and well. His eyelids had still rather a full appearance, which, he said, had always been the case. The urine was voided freely, was clear, acid in reaction, with a specific gravity of 1.022, contained neither albumen nor other abnormal ingredient, and was free from casts.

The presence of albumen in the urine of typhoid fever patients has been mentioned by Solon[*], Friedrich[†], Griesinger[‡], and many others. In a list[§] of 547 recorded cases it was present in 157, or in 28.6 per cent. Albuminuria is seldom observed before the second week, and is most apt to appear coincidently with cerebral symptoms. In typhus fever it generally occurs earlier and lasts longer. Cases in which the albuminuria is great and persistent generally run a severe course, and the prognosis is *pari passu* more indeterminate and grave. It is to be referred to the febrile attack, provided there be no history of antecedent renal disease. Whether any peculiar structural alteration of the kidneys is produced is uncertain. Most probably not, or we should not find the evidences of kidney lesion so transitory in their character. It is due to the altered condition of the blood and to hyperæmia of the kidneys, induced by the pyrexia, and is indicative of an obstruction to the channel by which the increased amount of urea and other products of retrogade tissue-metamorphosis are eliminated from the system. The prognosis[*] is always dependent upon the quantity and the date of appearance of the albumen; thus, the earlier its appearance, the larger its quantity and the longer its persistence, the more unfavorable will the prognosis be, and *vice versa;* hence the importance of daily examinations of the urine during the course of the fever. In this patient, the albuminuria being associated with a natural fulness of the eyelids, closely simulating œdema, pointed at first to some structural lesion of the kidneys, a suspicion dispelled by the subsequent course of the case.

CASE IV.—*Typhoid fever followed by diphtheria.*—G. A——, aged twenty-one years, a Norwegian sailor, was admitted to the medical ward on October 8, 1879. His habits were temperate, and his health had been good until six days before he entered the hospital, when the first symptoms of typhoid fever were noticed. The fever was very mild in type, the evening temperature in the axilla ranging about 102°, and only on two occasions reaching 103°, while the morning remissions were well marked, usually amounting to 2° or 2.5°. The pulse was, if anything, slower than normal, varying from 68 to 76 beats per minute. There was some occasional hebetude, a constant sense of muscular weakness, partial anorexia, with moderate abdominal distention, and gurgling in the region of the cæcum, but with a tendency to constipation. The eruption was ordinarily well developed. The urine was normal. The treatment comprised a milk diet, two fluid ounces of sherry wine daily, and a prescription containing four grains of sulphate of cinchonidia and fifteen minims of dilute muriatic acid, administered every four hours.

On October 24th, the twenty-second day of the disease, the temperature was normal and remained so on the 25th, 26th, 27th, and 28th. During these five days the patient's general condition was good, and he had a much better appetite, though he made some complaints of headache and weakness. The diet was increased by the addition of a moderate quantity of farinaceous food; no other change was made in the treatment, and he was not allowed to leave his bed.

On the 29th the headache was more intense, and there was a recurrence of fever, which rapidly increased as evening approached, the temperature at 6 P.M. being 105°, and the pulse 132. The milk diet was resumed. On the 30th and 31st, and on November 1st, the following notes were made:

October 30th, 8 A.M.—Temperature at six o'clock this morning, 104°; pulse, 124. Face dusky, with a peculiar, anxious expression; headache intense; thirst great; tongue heavily coated; appetite greatly impaired; abdomen slightly distended, gurgling and tympany in right iliac region. Has had two liquid stools during the night. At 12 M., while swallowing a mouthful of water, an expression of pain was observed to pass over his face. Pressure beneath the angles of the jaw caused pain, and an inspection of the pharynx showed redness of the half-arches, redness and moderate enlargement of both tonsils, and the presence of two white patches, scarcely larger than pin's heads, upon the left tonsil. The breath had a heavy, offensive odor. Chlorate of potassium was ordered, together with the cinchonidia mixture. Directions were given to wash out the mouth every hour with a solution of the potassium salt, and twelve fluid ounces of milk-punch (one to two) were substituted for the sherry. At 6 P.M. the temperature was 105.3°, the pulse 116. The bowels had been evacuated four times during the day and the stools were liquid. The abdomen was distended and tender.

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[*] Bulletin de l'acad. de méd., tom. xiii., 1847. Paris.

[†] Schmidt's Jahrb., 1855, Bd. 86. S. 172.

[‡] Infectionskrankheiten, Zweite Auflage. Erlangen, 1864.

[§] Murchison, op. cit., p. 532.

[*] *Vide* Brit. and Foreign Med.-Chirur. Rev., 1852. p. 316; Prag. Viegteljahrsch.. 1847. iii., p. 28; Schmidt's Jahr., 1868, Bd. 131, S. 44; Deutsch. Archiv f. klin. Med., 1866; London Med. Times and Gazette, vol. i. 1864, pp. 590, 666.

October 31st.—Morning temperature, 103.5° (perhaps reduced by 30 gr. acid. salicylic., administered in the night); pulse, 134, very weak. Face pinched and livid. The whole of left tonsil covered by a diphtheritic membrane; deglutition difficult. Complains for the first time of pharyngeal and abdominal pain. Retention of urine. Evening temperature, 104.6°; pulse, 140, thready. Five large liquid stools during the day.

November 1st.—In a condition of collapse. Skin livid and bathed with sweat. Hands and arms up to the elbows cold. Temperature, 101°; pulse not perceptible in radial or brachial arteries. Consciousness retained. Death occurred at 11 A.M.

An *autopsy* was made six hours after death. The surface temperature to the hand was higher than it had been for several hours before death. Both cavities of the heart contained firm ante-mortem clots, and the blood in the veins was more fluid and much darker in color than usual. The lungs were healthy. The mucous membrane of the stomach and small intestine presented evidences of congestion. The patches of Peyer were indurated and swollen, and several of those toward the lower end of the ileum showed cicatrizing ulcers. The mucous membrane of the cæcum and colon was thickened and studded with follicular ulcers. These ulcers extended only as far as the muscular layer; they were about one-eighth of an inch in diameter, with moderately cleancut edges and yellowish white floors, and were most numerous in the cæcum. The mesenteric glands were enlarged.

The liver, kidneys, and spleen were engorged with blood, the latter being about twice its usual size.

The above case recalls the theory advanced by Hunter,* that "no two of the so-called specific diseases can exist in the same person at the same time." A great deal of controversy has been held on this subject at various times. Much has been said for and against it, and a number of able authorities and skilled clinicians, notably Murchison,† have adduced cases and given a *résumé* of evidence in point to prove its falsity. Without going into the details of the discussion, it may be stated that the fact is proven that two specific diseases can coexist in the same individual, and that, furthermore, each will preserve its own characteristic symptoms. An analysis of this case would lead one to suppose that the diphtheria commenced after the typhoid fever was over (twenty-eight days); but when it is recollected that the patient was so situated that he could not have received the diphtheritic contagion after coming under observation (since there was no case of diphtheria in the ward at that time, nor had there been any in the hospital for many months), we are led to believe that it must have been absorbed before he entered the hospital. In other words, that the two specific poisons must have been taken into the system simultaneously, one to develop, the other to remain latent; and that that disease first manifested itself whose poison was received in greatest quantity or virulence. In the case detailed by Murchison,‡ the diphtheria appeared after the thirty-fifth day from the beginning of the typhoid fever.

CASE V.—*Typhoid fever with sudden and great rise of temperature during convalescence, caused by impaction of the rectum.*—Harry C——, aged twenty-seven years, a brakeman, was admitted to the men's medical ward of the Episcopal Hospital on November 24, 1879. He stated that he had always enjoyed good health until the beginning of the present attack, about November 10th. This illness proved to be typhoid fever.

The fever pursued a regular course, and was mild in type. The eruption and the abdominal symptoms were well marked, and the spleen was enlarged. The pulse throughout was slow and occasionally dicrotic. The axillary temperature, which on one occasion alone—the evening of the day of admission—reached 104.5°, fell to the normal line on December 11th, the seventeenth day of treatment and about the twenty-first of the disease, the patient having taken to his bed on November 20th. There were no nervous symptoms except slight hebetude. The treatment consisted of a milk diet, stimulants in moderate quantities, cinchonidia with dilute muriatic acid, and oil of turpentine. For a short time before convalescence became established, a tendency to sluggishness of the bowels was observed.

On December 13th two stools were obtained by a dose of castor-oil aided by an enema. These were large, formed, putty-like in consistence, and light yellow in color, the act of defecation being difficult and somewhat painful.

December 14th.—No evacuation. Temperature: morning, 98°; evening, 100°; pulse 68 to 76. Complained of coldness of extremities. Treatment: liquid diet (milk and beef-tea), fifteen fluid ounces of milk-punch, four grains of cinchonid. sulph. with fifteen minims ac. muriat. dil., three times daily.

December 15th.—No evacuation; belly indolent; tongue becoming coated again. Anorexia and nausea; skin hot, but moist. Temperature: morning, 98°; evening, 101°. Pulse: morning, 68; evening, 80, very feeble. Quantity of food reduced, cinchonidia mixture stopped, and an effervescing draught ordered every two hours.

December 16th.—No evacuation; some distention and tenderness of the abdomen, with dulness and a feeling of resistance in the left iliac fossa. Tongue coated white; breath heavy; face anxious in expression; sense of general discomfort and restlessness, and disturbed sleep. Temperature: morning, 103°; evening, 100.5°. Pulse: morning, 96; evening, 76. Treatment continued, with the addition of a cacao-butter suppository every six hours, and a large enema—the latter to be repeated if necessary.

December 17th.—Bowels evacuated in the early morning, stool very large and passed with great difficulty; its expulsion was followed by a short period of prostration. Belly less prominent—the tenderness has disappeared; a few lumps of fæces can be felt above the brim of the pelvis on the left side. Had a second stool at 11 A.M. At 6 P.M. his general condition was much improved; tongue cleaning, appetite returning, and face natural in expression. Temperature, morning, 96°; evening, 98°. Pulse, 76.

On the 18th the effervescing draught was discontinued and the cinchonidia mixture resumed.

For the succeeding eight days the temperature remained normal and there was a steady improvement, though an occasional laxative or an enema was required to keep his bowels open.

On the 25th it was noted that the patient was doing well. He had one large, lumpy stool, brought about by a dose of castor-oil given the day before.

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* Hunter's works. Palmer's edition. Vol i., p. 313.

† Brit. and Foreign Med. Chir. Rev., 1859, p. 178.

‡ Op. cit., p. 585.

He consumed nearly eight pints of milk daily, together with twelve fluid ounces of beef-tea.

On the 26th there was no passage; his tongue was lightly coated; his breath was heavy; there was anorexia, thirst, and slight nausea. On palpation a few fecal masses were detected along the course of the sigmoid flexure. Temperature: morning, 98°; evening, 98°. Pulse: morning, 68; evening, 104. At 9 P.M. he had a severe chill; the thermometer at that time indicated 105°, and the pulse counted 104.

On the 27th, at 4 A.M., the temperature was still 105°. The same treatment was instituted as on December 16th. At 9 A.M. the temperature had fallen to 104°, and at 6 P.M. to 102°, while the pulse fell from 112 to 86. He vomited several times during the day.

On the 28th there was a large light-colored, formed stool. Temperature, morning and evening, 99°; pulse 86 to 88.

After this time convalescence proceeded uninterruptedly, though slowly, the patient not being discharged fit for work until February 13, 1880.

Impaction of the rectum, with consequent rise in temperature during convalescence, is a clinical feature in the course of typhoid fever which merits our attention and study. No reference is made to it in Liebermeister's exhaustive article in "Ziemssen's Cyclopædia of Medicine," nor have I been able to find record of it in any of the journals. Sudden great rise in temperature, feeble pulse, tender abdomen, and symptoms of prostration occurring in a convalescent typhoid patient, would warrant the supposition either of a relapse, a perforation of the intestine with peritonitis, or some pulmonary inflammation. Of course minute differentiation of the attendant symptoms, with careful examination of the patient's abdomen and chest, would put one on the right track. This case demonstrates the value of these examinations and also of careful attention to the state of the bowels. The causes of the constipation were a natural sluggishness of the intestines and the use of milk[*] diet. If the impaction had occurred higher up in the bowel and at a time when Peyer's patches were ulcerated and had not cicatrized, death from perforation or hemorrhage would have been almost inevitable. In fact, Wilks[†] mentions a case where death occurred during the third week from perforation due to obstinate constipation; and Hudson[‡] describes a similar one, in which there was profuse hemorrhage. So also Murchison,[§] who makes record of a death in typhoid fever from perforation and peritonitis on the forty-second day, preceded by prolonged constipation. The hyperpyrexia in the case under consideration was due no doubt to reflex irritation, and the prostration, to the exhausting and unavailing attempts at defecation.

The treatment necessarily consists in a prevention or removal of the cause. This is best done by the administration of a teaspoonful of castor-oil every third or fourth day when the bowels become confined, or by the use of simple enemata. Under no condition, however, should any of the drastic purgatives be given.

The tendency to produce constipation during convalescence is almost the only disadvantage of an exclusively milk diet; it may be usually overcome by allowing the patient from six to twelve fluid ounces of beef-tea during the day in addition to the milk.

CASE VI.—*Typhoid fever—Complete obstipation from paralysis of large intestine.*—A. A. S——, aged twenty years, bartender, of ordinarily temperate habits, was admitted to the men's medical ward on December 17, 1879. Throughout his life he had been subject to attacks of epistaxis, but nevertheless considered himself healthy; he had rubeola in 1874. His friends gave December 13th as the date of the onset of the fever, as this was the day on which he was obliged to give up work. The symptoms were rigors, a sense of great muscular weakness, headache, epistaxis, heat of skin, anorexia, vomiting, and a sluggishness of the bowels. From December 13th until his admission to the hospital he rather fought against his illness, was very imperfectly cared for, and was given one or more purgative pills, which acted inordinately.

When admitted his condition was very grave. He was greatly prostrated, had evidently lost much flesh, his face was dusky and expressionless, and there was hebetude and subsultus tendinum. His tongue was red and clean at the edges and tip, while the centre was covered with a dry, brown, fissured coating; it was protruded slowly and was tremulous. His lips and teeth were covered with sordes, his pharynx was reddened, food was taken with reluctance, and there was occasional vomiting. His abdomen was tympanitic, there was tenderness in the epigastrium and gurgling in the right iliac region, and the area of splenic dulness was extended; the bowels had been confined for twenty-four hours. Fifteen or twenty characteristic rose spots were counted on the abdomen and anterior suface of the chest. There was retention of urine, and a specimen removed by the catheter was found to be clear, high-colored, acid in reaction, 1.026 in specific gravity, to contain an abundance of urates, and a quantity of albumen equal to nearly one-fourth of the bulk tested; no casts could be discovered by the microscope. The axillary temperature at 6 P.M. was 104.5°, the pulse 116 and very weak. During the night there was muttering delirium.

On December 18th his general condition was unchanged; he vomited several times, the ejecta consisting of curdled milk and mucus tinged with bile; the epigastric tenderness continued, and when roused he complained of pain in this position; he could be induced to take but little food, on account of a constant sensation of fulness of the stomach. The constipation and retention of urine continued. A profuse epistaxis began at 11 A.M. and lasted for an hour and a half. The temperature at 6 A.M. was 101.5°, at 6 P.M. 104°; the pulse at the same hours was 100 and 120, and was very compressible.

On December 19th the hebetude was less decided and the face had a better color. There was more vomiting, a few dark-colored clots of blood being rejected; the epigastric tenderness and pain remained. There was no evacuation from the bowels, and the urine had to be withdrawn by a catheter, and showed no diminution in the amount of albumen. Temperature: morning, 101.6°; evening, 103.5°; pulse, 116, somewhat stronger; respirations, 37, shallow.

On December 20th the hebetude was again very marked, and the face was more dusky and expressionless than on any of the previous days. The constipation and retention of urine persisted. The abdominal distention was noticed to be somewhat irregular, the outline of the colon being indistinctly traceable. At 4 P.M. and at 8 P.M. he vomited a large quantity of red, clotted blood. Temperature, 101° to 103°; pulse, 100 to 120, after the hæmatemesis it was very feeble. At 6 A.M. on December 21st the temperature was 103°, the pulse was imperceptible in the radial arteries, and the patient had passed into a state of coma. There was a slight discharge of blood from the anus. Death occurred about two hours later.

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[*] Stillé and Maisch's Dispensatory, Philadelphia, 1879, p. 792.

[†] Guy's Hospital Reports, third series, 1855.

[‡] Lectures on the Study of Fevers, Dublin, 1867, p. 290.

[§] Op. cit , p. 575.

During the short period that the case was in the hospital every effort was made to maintain the strength by the administration of liquid nourishment, and of stimulants in the form of alcohol, carbonate of ammonium, and digitalis. Twenty grains of quinia were given in four doses between seven and eight o'clock in the evening of each day. Hypodermic injections of gr. ¼ to gr. ⅛ of sulphate of morphia were employed with moderate success to induce sleep, and enemata repeatedly given without any effect upon the constipation. A hypodermic injection of ♏ x. of the fluid extract of ergot quickly arrested the epistaxis of December 18th, after the application of ice, of powdered alum, and the injection of hot water up the nostrils, had failed; but the same procedure seemed to have little influence upon the hæmatemesis which occurred later. Attempts were made to lessen the epigastric pain by mustard plasters and flaxseed poultices.

At the *autopsy* the *colon* was found to be altered in position, the transverse portion of the gut being curved downward nearly to the pelvis, overlaying and concealing the small intestine. From the ileocæcal valve to the sigmoid flexure the large gut was dilated, its diameter being increased at least one-half. This distended portion was filled with dark-colored, coagulated blood, and its mucous membrane was thickened and dusky red in color, the redness ending abruptly at the lower extremity of the dilatation. In the cæcum and ascending colon there were, in addition to the intense congestion, a number of superficial follicular ulcers. The *sigmoid flexure* and *rectum* were empty, quite contracted, and without alterations in their mucous surfaces. The *small intestine* was nearly empty, and the mucous membrane in the duodenum and jejunum was normal; in the ileum it was injected, and the Peyer's patches were ulcerated, these characters becoming more and more marked as the ileo-cæcal valve was approached. The *stomach* was empty, its mucous membrane presented the changes observed in chronic catarrhal conditions, and scattered over its surface were a few ecchymotic patches, none of which were larger than the head of an ordinary pin. The *spleen* was about four times the usual size, and was engorged with blood. The other viscera presented no important alterations.

Constipation due to paralysis of the large intestine is quite a rare complication of typhoid fever. With this there was also in this patient retention of urine, caused by paralysis of the coats of the bladder. The varieties of paralysis that occur most frequently during the febrile stages of this disease are involuntary evacuations of the bladder and rectum (paralysis of the sphincters of the anus and neck of the bladder), inability to protrude the tongue, dysphagia, inarticulate speech, and lack of power to close the eyelids. Those which happen in the post-febrile stage[*] take the form either of paraplegia, hemiplegia, strabismus, paralysis of the facial or of other individual nerve. Temporary aphasia[†] has also been reported to have occurred.

In connection with this case, Dr. Starr stated that it was the first instance that had ever come under his notice where obstipation from paralysis of the bowel existed as a complication of typhoid fever. In his opinion the paralysis was due to the intense inflammation of the coats of the gut, the inflammation having undoubtedly been set up by the active and ill-advised purgation of the early days of the illness, before entering the hospital. He considered the case of great interest, also, because it illustrated the fact that paralysis of a segment of intestine is capable of presenting an obstruction quite as impassable to the intestinal contents as an invagination or stricture.

Case VII.—*Typhoid fever complicated by an eruption of taches bleuâtres, and followed by cystitis.*—James C——, aged twenty-four years, weaver by occupation, was admitted to the men's medical ward, December 24, 1879, very ill and prostrated. He stated that he had had variola ten years previous, but with this exception had enjoyed good health until the present attack. It commenced on December 10th, with headache, malaise, muscular soreness, anorexia, abdominal pains, and diarrhœa, which had so weakened him that he was incapacitated for work, and took to his bed one week before his admission to the hospital. At this time he was pale and drowsy, the skin was hot and dry, the pulse was frequent and feeble; the bowels were loose (six watery passages daily), the belly distended, and there was pain and gurgling on pressing over the cæcum. The tongue was dry and coated, protruded with difficulty, its edges trembling; organs of respiration healthy; urine normal. Over the belly was a characteristic eruption of rose-colored spots, and in addition a number of light bluish spots, the "taches bleuâtres" of French writers. These were also noticeable on the inside of the thighs and forearms. They were of an irregularly rounded form, one-fifth to one-third inch in diameter, not elevated, not affected by pressure, and most noticeable by candle-light.

At 6 P.M. on the evening of the day of admission his axillary temperature was 103°; pulse 94. He slept very little during the night; was restless, but not delirious.

On December 25th the morning temperature was 100°; pulse 80, feeble. He was put on liquid diet, with twelve ounces of milk-punch (1 to 2), and a mixture of 3 gr. quiniæ sulph. with 10 gtt. ac. muriat. dil., every four hours. Moderate doses of ammonii carb. and tr. digitalis were administered when the pulse indicated their use, and hypodermic injections of morph. sulph., ¼ gr., were ordered p. r. n. Pain over the abdomen was so great that a flaxseed-meal poultice was applied.

The fever pursued a course of moderate severity; the diarrhœa subsided, the heart's action improved so that the ammonii carb. and tr. digit. were soon discontinued. The temperature during the second week fluctuated between 102.5° in the evening and 100° in the morning, the pulse at the corresponding times being 100 and 88.

On December 29th retention of urine occurred, which persisted for six days and required the use of a catheter three times daily. Sleeplessness was the only other unfavorable symptom present, but was readily overcome by the use of morph. sulph

On December 31st, the commencement of the third week of the fever, the symptoms began to amend. The tongue became more moist, was protruded with ease, and its coating, as well as the sordes around the teeth, gradually disappeared. The typhoid eruption had faded away, and the blue spots above noted were not visible on the forearms, while those on the abdomen and thighs were lighter in hue. The pulse had become feeble, but was soon strengthened in force and fulness by an increase to fifteen ounces of the milk-punch. The axillary temperature did not run to a higher point than 102° in the evening and fell to 100° in the morning; pulse: evening, 96; morning, 84. The bowels were inclined to constipation, but the occasional use of enemata provoked easy passages, natural in consistence and color. Toward the end of the week the temperature began to make marked remissions, and by January 6th, the close of the third week, it had fallen to the normal line both in the evening and morning.

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[*] Deutsches Archiv für klin. Med., 1872, ix., p. 480.

[†] Gaz. hebdom., 1865, p. 140–591.

All the symptoms indicated a rapid convalescence. There was no pain in the abdomen, the organs of circulation and respiration were healthy, the urine was voided spontaneously, bowels regular, sleep natural, and the patient, though emaciated and weak, felt well and was hungry.

On January 8th the diet was cautiously increased and consisted of milk, beef-tea, chicken-broth, two soft-boiled eggs, farina and soft bread; the milk-punch was reduced to twelve ounces, and in a few more days to six ounces.

On January 11th, however, the patient complained for the first time of tenderness over the bladder, with burning pain during urination, and from this time until the 24th suffered severely from cystitis.

On January 28th he sat up for the first time, and though weak, was able to walk to the end of the ward to be weighed. His weight was 123 lbs. There were present no unpleasant symptoms, except loss of flesh and weakness. He was put on a mixture of iron, quinine, and strychnia three times daily. From this time he made decided and rapid improvement, and by February 17th, the date of his discharge, he weighed 144 lbs. and felt perfectly able to resume his work.

The presence of "taches bleuâtres," retention of urine, and cystitis, are the features of interest in the clinical history of the above case. The first have been occasionally observed in typhoid fever, and also in simple continued* fever, and they hence do not constitute a specific characteristic of either. They are apt to confuse the physician and lead him to suppose the eruption to be that of typhus fever, or that the two diseases—typhus and typhoid—co-exist. In typhus fever, however, the spots are first pinkish or florid in hue, and disappear by pressure; subsequently they become reddish brown or livid, according to the amount of pigment, and do not disappear on pressure. The "taches bleuâtres" do not pass through these successive stages, but are always of a uniform delicate bluish tint; they are not elevated above the skin, are of an irregularly rounded form, and are not affected by pressure. Trousseau† described them and made the observation that, when present, the case generally ran a mild course.

Retention of urine has been noted by Murchison in 2 out of 100 cases, and was present in two of the cases here recorded. It does not occur so frequently as in typhus fever, and is due, most probably, to paralysis of the coats of the bladder. Neglect to daily examine the hypogastric region by palpation and percussion, and to question the patient concerning his urine, may lead to serious results, such as convulsions, catarrh, or ulceration of the bladder. It also must not be forgotten that incontinence may coexist with retention—the "incontinence of retention" of some writers, the urine dribbling away from a distended bladder.

Cystitis, like other catarrhal affections of the mucous membranes, is not a very uncommon sequel of typhoid fever. Its symptoms are so marked that it can scarce fail to be early recognized, and it generally yields to judicious treatment. Its direct causes are unknown, but retention of urine and the constant use of quinine* may be cited as elements in its production.

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* Davasse: Des fièvres éphémères et synoques, Paris, 1847, p. 23.

† Clinique méd., Paris, 1861, p. 169. Eng. Transl., 1869, vol. ii.

* Stillé and Maisch, op. cit., p. 1173.

A CASE OF EPILEPSY

Depending Probably upon Hypertrophic Cervical Pachymeningitis.

By HORATIO R. BIGELOW, M.D.,
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The above hypothesis is, possibly, more absolute than it should be. The patient is still living, so that a diagnosis, while it may wear the semblance of probability, cannot be confirmed by actual demonstration. It is sufficiently interesting, however, to warrant publication, as it seems to be confirmatory of the views of Charcot, as given by him in his "Leçons sur les Maladies du Système Nerveux." The word "epilepsy" in this connection does not convey precisely the meaning intended, but for want of a better nomenclature I use it as indicative of a train of symptoms constituting an "epileptic condition." The minutest inquiries from the patient and from the father failed to elicit any history of syphilis, although there had been suspicious symptoms in the grandfather.

About twelve months ago I was called to see F. H——, a young man, twenty-three years old, of bilious habit. I found him lying upon the floor with an epileptic seizure. The father is a hale, hearty man, fifty-five years old, somewhat eccentric in conversation. The mother is a few years younger, thin, angular, and sallow, and an ardent spiritualist. There are two daughters of this parentage, the younger of whom is chlorotic in a marked degree. The elder is, seemingly, in perfect health.

Early History.—From infancy my patient had suffered with similar attacks, coming on periodically. For many years they appeared every four months, but latterly they manifest themselves oftener—every three months perhaps. They have never supervened upon the ingestion of a full meal, neither have they been preceded by any "especial aura." His first remembrance of any precursory symptom was that of a whirling and dizziness in his head. Latterly he has suffered with loss of muscular power in the arms, and with erratic "rheumatic pains" of so severe a nature that he often cries out. He has no will-power over the arms, which jerk about in all directions.

Condition at time of Examination.—He is of medium height, dark hair and eyes, and with a peculiarly vacant, wandering look. His conversation is childish—as from arrested cerebral development. He has but little power of mental concentration, although he does not lose the thread of the discourse. There is no aphasia or agraphia, neither is his speech faltering. He delights more in the things belonging to childhood than in the mature discussion of ideas appertaining to manhood. His gait is uncertain and tottering, which, he says, has come upon him lately. The power of pressure in both hands is so small as to be almost unappreciable. The protruded tongue shows no deviation to the right or left, and there is no loss of symmetry in the face. His sight is bad—worse at some times than at others. He complains of much pain all around the head, at times most severe over the eyebrows, and at other times over the occiput. He has "numbness" in the arms, with sharp, wandering pains. The heart and lungs are both healthy, and his digestion pretty good. Of late his parents have noticed a loss of memory, chiefly of recent and present events. His urine is normal. There is no responsive muscular excitability to the faradic current. The hands and feet are cold and colorless, with much muscular wasting. His fingers not responding, he is unable to write well. The "patella tendon reflex" responds at about .12 interval. He has electric sensations in various parts of the body. In the left axilla the temperature is 100°; in the right, 101°; in the rectum, 101.5°. In the right parietal region it is 101.2°; in the left parietal, 99.9°; over the occiput it is 101°. which temperature remains as far down as the last cervical vertebra, when it commences to fall slightly. There is no tenderness upon pressure along the spine. The pupils are contracted.

Such, in brief, were the points of diagnosis which I had for guidance. Upon my first visit I confess that I was puzzled to make out either cause or localization, and so administered a gentle placebo, bromide of potassium I think, and returned to my office to study and to think. The salient features in the case were:

1. Contraction of the pupils.
2. The peculiar gait.
3. The condition of the muscles, wasting, loss of electric irritability, loss of pressure power.
4. The periodicity of the attacks.
5. The peculiar and painful sensations of the patient.
6. The temperature.
7. The absence of essential paralysis.

All of these symptoms accompany intra-rachidian tumors, vertebral cancer, thrombosis with softening, gummata, and Pott's disease. The periodicity of the attacks, together with the youth of the patient and the absence of a syphilitic history, would seem to render the presence of pachymeningitis improbable. But while Charcot admits that periodical seizures in this disease are rare, and not at all characteristic, he has met with five cases in which they occurred. The age of the patient excluded the existence of *senile* arterial degeneration, but such degeneration *occasionally* exists in the young. The muscular condition indicated a pressure upon the interior roots of nerves—pachymeningitis? But these same muscular phenomena also occur in meningo-myelitis. This latter disease being very usually of syphilitic origin. My patient, so far as I could learn, had not had inherited or acquired syphilis. Reasoning by exclusion chiefly, I formed the conclusion that it was either a case of cervical pachymeningitis or of meningo-myelitis with which I had to deal. It must be remembered, however, that there was *no* tenderness along the spinal column, no dysphagia or difficulty of breathing, no marked sensation accompanying the application of heat and cold along the spine, no sexual derangement, no parasthesia, and no sense of constriction. The muscular conditions common to both of these diseases were present, and in either case might be caused by compression of the cord. The contraction of the pupils pointed to a lesion in the upper part of the cord.

The next day I called at the house and applied the actual cautery at three different points in the upper cervical region, and ordered pills of the iodide of iron and ergot. I also advised daily shampooing of the affected muscles, salt baths every morning, the body to be well rubbed with a crash towel afterward. The blisters made by the cautery I kept open, applying to them an ointment of the iodide of calcium. For three months there was no appreciable change in the condition of the patient, although the disease did not seem to be progressive. The pains were quieted with full doses of the bromide of potassium. As time went on, however, and the treatment was persisted in, there was considerable return of power to the hands, the pains became less severe, and the sight was somewhat improved. During the past twelve months he has had but one epileptic seizure, and his gait is much better, although still uncertain. His mental powers are unaltered. The disease seems to be held in abeyance. The swelling and thickening of the cord, should such a condition really exist, chronic in nature, manifests no tendency to increase, but judging from the improved action of the anterior roots of nerves, the inference is a proper one that the pressure is becoming less. This pressure was not due to inflammatory products, as I believe, for such products always manifest a tendency to increase in severity, unless they happen to be of a specific nature, and then, if the case be seen early enough, they will disappear under specific treatment. The temperature which was so unequal and interesting when I was first called in, has greatly improved and is normal everywhere, save at the occiput, where it is very slightly elevated.

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A CASE OF

EXTRACTION OF A FOREIGN BODY FROM THE VITREOUS CHAMBER,

WITH RETENTION OF USEFUL VISION IN THE INJURED EYE.

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L. R——, a healthy smith, aged nineteen years, came to me on July 2, 1880, with the request to have his eye looked at. He said, three days before, while striking one hammer with another, he felt something fly into his right eye. He had no pain or other inconvenience from it, and had been at work, as usual, but concluded to come to the infirmary "to be sure that it was all right," as he expressed himself.

On examination, I found, immediately below the limbus, down and inward, a slight elevation above the sclera of a minute nodule of tissue, consisting of the conjunctiva and underlying tissues. Expecting to find the foreign body imbedded there, I lifted this up with a needle and found instead an opening through the sclerotic. The front of the eye appeared otherwise perfectly normal. The ophthalmoscope showed a faint opacity in the vitreous. A few drops of an atropine solution soon dilated the pupil widely. During this process of dilatation a few drops of blood made their appearance in the anterior chamber. Through the enlarged pupil could be seen two or three red streaks (blood) in the vitreous extending from the region of the wound out, up, and backward. No foreign body could be seen. I informed the patient that the piece of steel was in his eye; that either it or the eye had to be removed, and that I should try to extract the former with a magnet. He consented at once. Dr. Emil Gruening very kindly lent me the magnet devised by himself for this special purpose, and I am also indebted to him for his kind assistance and moral support during the operation. The patient was etherized, and it was noticed that during this process the anterior chamber filled with blood. The eye was adducted at maximum, and an incision was made as far back as practicable, on a level with the lower border of the rectus externus. This incision was carried to the sclera, and from this time the overlying tissue were well dissected back over a space the size of a small lozenge. When all bleeding had stopped, I carried a lance-knife, about 4 mm. in width, into the vitreous chamber the whole length of its blade.

I then introduced the magnet, revolving it carefully, and, after a time, removing it slowly. Nothing came with it. A powerful magnet was then held to the edge of the wound without evident effect. These movements were repeated three times, the magnet being revolved each time in a different portion of the vitreous chamber. Great care was taken to avoid the lens and the fundus. After the third withdrawal the foreign body appeared in the wound, and was withdrawn by the magnet. The lips of the wound had not been held apart, and probably the foreign body (which proved to be a scale of iron about a grain in weight) was stripped from the magnet on its exit through the wound. *Not a particle of vitreous was lost.*

The conjunctiva was united over the wound by three sutures. Union per primam occurred. Immediately after the operation the anterior chamber was densely black, so full was it with blood, and it remained in this condition for over three weeks. When the blood was finally absorbed, a dense, dark greenish deposit could be noticed on the posterior surface of the cornea. This has gradually disappeared since then from the periphery, but can still be seen over the centre of the cornea, although even there it has become much thinner, and is evidently being absorbed slowly. The patient suffered no pain during the healing process. On September 1st, two months after the operation, he was permitted to resume work. His condition was then as follows: Conjunctiva and sclera normal; cornea clear, excepting the thin central opacity above mentioned. Iris normal in color and easily dilatable with atropine, but recovers its normal contraction somewhat readily. Lens clear; on its anterior capsule a fine, thread-like stellate marking can be traced. Vitreous filled with dark stripes. Details of fundus cannot be made out clearly. Tension normal. Vision=20/C on clear days (V. L. E.=20/xx). Field contracted somewhat in all directions, but markedly so upward and inward. The interesting points in this case to me are:

First.—The demonstration of the usefulness of the *magnet* in similar cases. Before its application in ophthalmic surgery the foreign body, as it could not be seen, would therefore either have been left in the eye—a source of permanent danger to it and its fellow—or the eye would have been enucleated. Attempt at extraction of a foreign body which could not be seen out of the vitreous chamber without a magnet would not have been thought of.

Second.—The bleeding into the anterior chamber began only after the instillation of the atropine and seriously precipitated by the administration of ether. This hemorrhage seems to have been from the wound in Fontana's space, or the extreme periphery of the iris. The scale seems to have passed through this region and through the zonula without touching the lens.

Third.—The peculiar deposit on Decemet's membrane, which remained so persistently. The coloring matter of it must have been deposited from the blood, but very probably some plastic material was united with this, else the absorption must have gone on much more rapidly.

Fourth.—The dense masses of blood in the vitreous absorbing so very slowly, as they usually do, go to strengthen the opinion generally held that the introduction into the vitreous of instruments is, at best, a matter of very serious moment, and should not be resorted to lightly.

Fifth.—The limited field, to all but light perception, seems to me to indicate the probability of changes in the peripheral portions of the choroid, thus interfering with the nutrition of the lens. The slight marking on the anterior capsule could not have been caused either by the foreign body or the manipulations. The prognosis for a further improvement in vision within the field seems to be good.

Reports of Hospitals.

HOSPITAL OF UNIVERSITY OF PENNSYLVANIA.

CASE OF DOUBLE ANEURISM OF AORTA AND DESCRIPTION OF TREATMENT OF INTERNAL ANEURISMS BY ELECTROLYSIS.

By WILLIAM PEPPER, M.D.,

PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

GENTLEMEN: I show you first, this morning, the specimen from a case of a very interesting character—a case, in fact, of double aneurism of the aorta; and I propose to discuss with you, for a few moments, the subject of electrolysis with reference to the relief and cure of aneurism. The man from whom this specimen was taken was always a hard-working man, plying an occupation which required a great deal of muscular exertion, and who also showed a distinct syphilitic history. He first came under treatment for supposed intercostal neuralgia, but the pain remained so constant and severe that a more thorough examination was given, and a prominence at the spine in the thoracic region was discovered, whose pulsating and heaving character, and whose thrill warranted the diagnosis of aneurism. To make sure it was no other form of thoracic tumor, the exploring-needle was used to confirm the diagnosis.

At this point let us discuss the treatment of internal aneurisms. As they are internal and not in reach of the surgeon, so that the main arterial trunk may be ligated, the following medical means have been thought of:

First.—Specific remedies, and those that will favor clotting of blood, as the mineral salts, lead, etc.

Second.—Physicians, finding that as people were starved the blood became very rich in fibrin, thought that there was more likelihood of a clot being formed under a plan of partial starvation than when the patient was allowed full diet.

Third.—As all increased muscular exertion causes increased action of the heart, and hence, the more immediate danger of rupture by the increased force of the blood-current through the sac, rest was considered beneficial.

In reality, the last two, namely, perfect rest and as low diet as is consistent with absolute life, are the most important elements in our medical treatment; and, as you never find aneurisms without atheromatous changes in the coats of the arteries, alterative remedies, as potassium iodide, become valuable, more especially when syphilis is an element in the disease.

In the case before us, potassium iodide did not check the progress of the affection.

But supposing, despite the treatment referred to, the aneurism goes on growing larger and larger, protruding more and more against the chest, so that the thoracic walls and ribs are giving way before it, the tissues over it are growing thinner, and the thrill and pulsation more evident each day, the question will then come up, and is often anxiously asked by the patient, "Can nothing else be done to relieve me, to ward off this impending result, and save the life just hanging by a thread?"

This is often very difficult to answer, except when the aneurism is of a vessel so located that the main trunk can be ligated; but of course, when situated in the thoracic aorta, or arch of the aorta, this cannot be done.

There remains, then, nothing to do but to put something into the sac that mechanically will form a clot in it. Needles, horse-hair, threads, etc., have been tried with little advantage. The galvanic current alone has proved a success.

You know that if two needles, connected with the poles of a battery, be placed in a dish of albumen, it will be soon coagulated. I take here two needles so connected, and by placing them into this white of egg you see immediately the needles become coated; and as I continue the process, a firm, strong clot is formed at the negative pole, and a small, friable one at the positive pole. This process has been taken into consideration in the operation of electrolysis.

The mode of operating is very simple. You need two sharp platinum needles, coated with gutta percha, and after freezing the skin with ice or with ether-spray, you should plunge one needle, previously connected with the galvanic battery, boldly in with a single stroke, until you feel all resistance cease. The second needle is to be introduced in the same way.

Thus far it will cause but little pain, but the moment the current is turned on the heart will give a great bound and the pulse become greatly accelerated. This should not, however, be any cause for alarm.

Gradually turn on the full current and leave it on for some minutes, when the operation is completed by withdrawing your needles.

Electrolysis is only appliable when the medical treatment has been tried, and when the aneurism comes up close to the thoracic walls; but this is so often the case, that it can be frequently applied.

Here is a specimen from a case in which the operation had been performed twice in this hospital, at the urgent request of the patient.

The needles were introduced, and almost immediately were followed by great relief of pain and great reduction of pulsation and thrill.

In a short time, however, all these bad symptoms returned, and the operation was repeated, with the same beneficial results. The man finally died from exhaustion, and at a post-mortem examination large fibrous clots were found at the points of insertion of the needles, which no doubt prevented rupture of the sac. The operation was therefore perfectly satisfactory, so far as relief of pain and comfort are concerned.

The last fact is the same as is shown by the study of the result of about one hundred cases, in whom, in about two-thirds of them, temporary relief from pain and suffering was given, and in only a very small per cent. had it a curative effect; still, in no case had it ever done any harm. I think, myself, that the operation under such circumstances as I have stated is perfectly justifiable, and I would be perfectly willing to have it performed upon myself.

To return to our first patient, I would say that he came into the hospital for such treatment; but the day before yesterday, while standing at his bedside, he commenced spitting blood, and in less than two hours he was dead.

In looking at the aorta, it shows disease of the coats of the descending portion, and a double aneurism: a small one coming from the descending arch, about the size of a walnut, unruptured, and one ruptured sac, as large as a child's head, springing from the posterior wall of the thoracic portion. This large sac had hollowed out the surrounding lung, and in bursting had torn the adjacent structures and opened a bronchial tube. Of course, in this case the process had gone on so long that the operation of electrolysis would have been perfectly negative in its results, and, as upon it might have rested the blame of this unfavorable termination, I am glad it was not performed.

PRESBYTERIAN HOSPITAL, NEW YORK.

TRANSPOSITION OF VISCERA.

SERVICE OF DR. GEO. F. SHRADY.

Reported by J. W. STICKLER, M.D., House Surgeon.

H. TIPP, aged twenty-seven years; single; farmer; native of United States, enjoyed good health until two years ago, when he had an attack of cystitis. For the treatment of this disease he entered the Presbyterian Hospital, in the service of Dr. Geo. F. Shrady, attending surgeon.

A physical examination revealed the following remarkable deviations from the normal positions of the viscera of the thorax and abdomen. Heart: apex-beat directly under the right nipple; impulse and rhythm normal; no valvular murmurs. Surface measurements: vertical—from the second intercostal space to the fifth rib, 4¾ inches; from the median line to the right on the third rib, 3 inches; on the fourth rib, 4 inches; on the fifth rib, 4½ inches. Liver occupied the left hypochondrium and part of the epigastrium. Its vertical measurements were, so far as could be ascertained by auscultatory percussion: on the left of the median line in front, 3½ inches; on a line with the left nipple, 2½ inches; in the axillary line, 2½ inches; posteriorly in the dorsal region, 2¼ inches. Spleen was behind the ninth, tenth, and eleventh ribs, on the right side in the axillary line, and measured, in length, 4 inches; in breadth, 2½ inches.

While listening to the patient swallow, it was found that the œsophagus passed down in front of the spine to about the fifth dorsal vertebræ, at which point it was deflected toward the cardiac orifice of the stomach in its abnormal position. The position of the stomach was ascertained by performing percussion in the epigastric region after giving the patient a seidlitz powder. The area of tympanitic resonance corresponding to the cardiac end of the stomach was on the right side, while the resonance diminished toward the left extremity of the viscus. The right testicle was the lower of the two. The rectum passed from the right side of the sacrum to its left side.

Patient says he has never had an inflammation of the pleura, lungs, pericardium, or peritoneum, and a careful physical examination would confirm the statement. His present excellent health, fortunately for him, will preclude the possibility of verifying the diagnosis in the manner usual with such interesting cases.

Progress of Medical Science.

Experimental Study of the Valvular Lesions of the Heart.—By means of a sound passed through the carotid artery of an animal, Dr. Otchakowsky produced perforation or entire separation of one or more aortic valves. As the result of this artificial valvular insufficiency the blood-pressure in the arterial system was very much lowered in proportion to the degree of the valvular defect. This effect was most marked at first, gradually subsiding, and entirely disappearing in five or six weeks. If the animal was killed at that time, hypertrophy and dilatation of the left ventricle were always present; these two conditions were always associated, the hypertrophy being more prominent at first, and the dilatation later on. All the abdominal organs were found congested, the liver the most, and the kidney the least; the congestion was in inverse proportion to the length of valvular lesion, except in the case of the liver, which always contained an abnormally large amount of blood.—*Vratch*, 1880, No. 12.

Influence of Alcoholic Baths on the Perspiratory Function of the Skin.—Dr. S. Wassilieff found that, after the skin had been thoroughly rubbed with alcohol, hot baths induced much more profuse perspiration, exceeding sometimes four and five times the amount of water lost without previous treatment with alcohol. Hence, the two processes should always be combined when there is indication for extraction of a considerable quantity of water through the skin. Dr. W. explains the action of alcohol by an rritation of the sensitive, and, perhaps, also of the secretory nerves of the skin, and also by the removal of fat from the surface of the skin and the glandular pores.—*Vratch*, 1880, No. 13.

Two Consecutive Lithotomies on a Boy.—Dr. Orloff removed a stone weighing one ounce, by the ateral method, from a boy twelve years old, and another stone weighing 100 grains, by suprapubic operation, eighteen months later. The wounds in he latter case healed in nineteen days.—*Meditz. Obozrenie*, p. 726, May, 1880.

Alkaline Treatment of Cancer.—Dr. Reier exhibited to the St. Petersburg Medical Society, three patients who had been treated in the above manner, as proposed by Dr. Busch. It consisted in scraping off all cancerous tissue, and in the systematic use of a saturated solution of soda. The first patient was ixty years old. On the left side there was an absence of the eye, orbit, superior maxilla, also hard palate and greater part of the nose. Five weeks before, hese parts presented cancerous infiltration with a endency to rapid extension and ulceration. When exhibited, the surface presented healthy granulations nd cicatrization was already beginning at the anle of the mouth. The second case was also an old man. Destruction less extensive. Healing more advanced. Surface granulating, and general peripheral cicatrization. Third case was a woman nearly ninety years old, cured. Former seat of cancerous growth showed a cicatrix of a uniformly solid appearance. The growth was examined microscopically six months ago, and had every feature of a malignant tumor. This treatment is based upon the power of strong alkali to dissolve the cellular elements.—*Vratch*, 1880, No. 23.

Continuous Intra-uterine Antiseptic Irrigation in Septic Puerperal Diseases.—This method, proposed by Dr. Schücking in 1877, was very favorably received by all the prominent obstetricians in Europe, and its use is rapidly increasing. In Russia, it has been but little used, and Dr. Levenstein has sought it this paper to bring it to the favorable notice of his compatriots. He uses an ordinary black rubber tubing fastened by tapes to the belt. The irrigating fluid is the dilute tar-water (1–20), but other antiseptics can be employed—salicylate of soda (1–250), chlorate of potassium (1–200), chlorinated lime (1–350), carbolic acid (1–100), etc. The temperature of the fluid in the febrile conditions is lower, in apyrexia higher, the subjective feelings of the patient being always considered. The fluid enters the uterus drop by drop, and escapes per vaginam through a hole cut in the mattress into a receptacle under the bed. Irrigation is kept up continuously during the entire sickness, two to eight and sometimes eleven days. It is borne very well by the patients and does not cause any inconvenience whatever. The cases where this treatment is indicated are various septic processes following labor: purulent, croupous, and diphtheritic endometritis, acute para- and perimetritis, and particularly pyæmic metro-phlebitis. In the course of three months Dr. L. treated 41 such cases, with only 34 per cent. of mortality, while the usual death-rate in his institution had been 50 to 57 per cent. Of these 41 patients, 16 were treated in November; 14 recovered. They were mainly cases of septic endometritis, frequently complicated with para- and perimetritis, but several were cases of pyæmic metro-phlebo-thromboses; some of the cases were very severe, presenting as many as nine rigors, and a temperature as high as 41°. During December, the cases of diphtheritic endometritis made their appearance, frequently complicated with general peritonitis. Usual death-rate, according to Winkle, is 65 per cent. for this disease. Eleven patients were treated during this month; 7 recovered. In January diphtheritic endometritis became still more common, and the malignity of the epidemic reached its maximum. Seven cases appeared in one ward, all attended by the same nurse. Fourteen cases were treated by irrigation, of which 6 recovered. All cases, with the exception of those of diphtheritic endometritis, were treated exclusively by irrigation, the latter also by special treatment peculiar to this disease. Constant irrigation of uterus is recommended not only as the treatment for these diseases, but also as a prophylactic measure.—*Vratch*, 1880, No. 25.

Effects of Electric Light on the Accommodation.—Very extensive experiments with Jablakoff's candle lead Dr. Liubinsky to the conclusion that electric light, by its brilliancy it has the same effect on accommodation as an insufficient light, namely, producing temporary myopia. As the light is never absolutely even, the changes in its intensity produce a very fatiguing effect on the eye, as with the variations of light accommodation has to be constantly readjusted.—*Vratch*, 1880, No. 26.

Experimental Contributions to the Question of Spontaneous Hypertrophy and Dilatation of the Heart.—To determine the extent of the etiological importance of increased cardiac activity in the formation of hypertrophies and dilatation of the heart, Dr. Zassietzky undertook the following experiments: He selected four male kittens belonging to the same litter, and after they had grown up two of them were chased daily for one-half to two hours. At the end of six months all were killed and their organs examined. He found that the hearts of the chased kittens presented some peculiarities indicating that essential structural changes occurred as the result of the experimental conditions. They were longer, a trifle wider, but weighed less; the thickness of the right ventricles and auricles was greater, but the walls of the left ventricles and auricles were thinner. The aorta at its junction with the heart was wider; no difference was observed in the pulmonary arteries. The muscular fibres of the left side of the heart were less wide, while those of the right side were thicker. The lungs, spleen, and brain were found to weigh less. No difference in the other organs.

These changes were explained by an earlier occurrence of hypertrophy and subsequent atrophy and dilatation on the left side of the heart, than on the right, so that at the time of *post-mortem* examination the first had entered already the stage of atrophic preponderance, while the second bore still all the signs of hypertrophy.—*Vratch*, 1880, No. 28.

On the Reunion of Isolated Pieces of Long Bones.—Dr. Jakimowitch states that thin pieces of long bones entirely separated from periosteum and marrow can again be reunited with the adjoining parts.—*Vratch*, 1880, No. 29.

Treatment of Bromide Rash by Salicylic Acid.—Mr. Prowse, of Cambridge, says that salicylic acid, applied locally, is a very effective and certain remedy for the pustules and peculiar ulcerations that are caused by the prolonged use of bromide of potassium. He uses a saturated solution of the acid (one grain to the ounce of water) and applies it frequently, and where possible, constantly by means of lint and oiled silk. He states that he has seen sores as large as the palm of the hand, due to the bromide, heal soundly in less than seven days under the use of this lotion.—*British Med. Jour.*, July 24th.

The Arciform Fibres of the Medulla Oblongata.—M. Luys has made an interesting communication to the *Société de biologie* on the subject of the connections of the arciform fibres of the medulla oblongata. He maintains that they are nothing more than the terminations of the inferior cerebellar peduncles. After these have reached the lateral parts of the medulla, the fibres pass obliquely into this region and increase its size by passing between the ascending fasciculi from the spinal cord. Some of the fibres, however, pass into the interior of the medulla, and these are the concentric fibres which form so conspicuous a feature in all transverse sections of the medulla. That part of the fibres which apparently remains on the external surface of the medulla, and extends on the restiform bodies and anterior pyramids, presents great variations in direction and terminal distribution. Some of the fibres surround the olivary bodies and penetrate the median raphe, while others have a serpentine direction toward the pons. The conspicuous fact regarding these fibres is that, whatever be their course, all seem to decussate at the middle line, and this decussation in fact constitutes the median raphe, the significance of which has not been accurately estimated. The ultimate destination of these fibres is still uncertain. M. Luys thinks it possible that, after decussating, they enter one of the deposits of gray matter which are seen close to the raphe, and which are composed of large cells with interlacing processes. Others probably pass to the network of cells of the olivary bodies on the side opposite to that on which they entered the medulla from the cerebellum. In support of these views, he showed sections from a case of congenital atrophy of one lobe of the cerebellum. The inferior cerebellar peduncle on that side was completely atrophied, and so also was the olivary body on the opposite side, which contrasted strikingly with the full development of the olivary body on the same side. This important observation speaks strongly for the view advanced by M. Luys, that there is an intimate connection between the olivary bodies and the cerebellar fibres.—*The Lancet*, July 24th.

Treatment of Respiratory Diseases by Means of a Portable Inhalation Apparatus.—Dr. Hansmann, of Mesan (Tyrol), has devised a little apparatus which he calls an "inhalation respirator" and which he has found very serviceable in the treatment of various affections of the organs of respiration. Its action is said to disinfect, deodorize, and also diminish expectoration. This little contrivance is made of tin, and consists of a mouth-piece and a receptacle for the medicine, the two portions being separated by a sieve. The receptacle also has external perforations, so that the external air may have ready access to it. The medicine is dropped upon cotton, and this is placed in the receptacle, so that with each inspiration the breathed air carries with it the volatile elements of the drug. The whole apparatus is conveniently small and has a pleasing shape, besides being readily adjusted to the mouth. Patients may wear it during their promenades. Among the medicaments which the writer has employed in various affections, such as putrid bronchitis, bronchiectasis, phthisis, may be mentioned rectified tar, the unguentum picis (1:4), carbolic acid solution (five to ten per cent.), and turpentine. The author finally cites typical cases, which exemplify the gratifying results which he has obtained from the persistent use of his little apparatus.—*Berlin. klin. Woch.*, August 23, 1880.

Resorcin and its Antipyretic Action.—In a series of articles (*Allgemeine med. Cent. Zeitung*, July 28t and 31st, and Aug. 4, 1880) Prof. Lichtheim, of Berne, calls attention to this powerful drug, which, althoug discovered several years ago by the chemist Hlasiwet in Vienna, has not hitherto received the attention o the medical world. Dr. Andeer, of Würzburg, quit recently studied the therapeutic value of resorcin and Lichtheim has supplemented this study by series of clinical observations, which certainly meri professional consideration. Resorcin has derived it name from its similarity to orcin (contained in coloring moss termed orseille) and certain resins especially galbanum. The chemical formula o resorcin is said to be C_6H_4 (OH_2) and it belongs t the series of phenols. Its antiseptic properties ar in every way equal, if not superior to those of carboli acid. In febrile conditions its administration pr duces a rapid and considerable lowering of the tem perature, which exceeds that of quinine and sali cylic acid, but this effect is of short duration. dose of two or three grammes produces, after a fe minutes, vertigo, tinnitus aurium, facial congestion, an accelerated respiration, and an increased pulse-rate. In ten or fifteen minutes perspiration begins, and about fifteen minutes later the patient is bathed in sweat. About one hour after its administration the patient's pulse and temperature are normal. This antifebrile action is, however, not invariably so marked, and in this respect resorcin appears to be subject to the same variations that characterize other antipyretics. Besides its very temporary effects (pulse and temperature generally attain their former height some three or four hours after the cessation of the drug), resorcin appears to have certain other drawbacks, which until now have not been remedied. Phenomena of excitation usually precede its febrifuge action, and these may sometimes assume the the shape of active delirium or other cerebral manifestations. Coma was also observed in one case. On the other hand, all these acute symptoms are quite evanescent, and in no case was any deleterious "after-action" noticeable. Lichtheim thinks that if we should succeed in doing away with these unpleasant symptoms, resorcin would soon become as widely known and used as quinine and salicylic acid.

In non-febrile conditions and on healthy subjects the new drug appears to have no action at all. The pulse and temperature show no change, neither were any cerebral phenomena observable, barring perhaps a slight vertigo and moderate tinnitus aurium. Resorcin is easily soluble and readily absorbed, and this appears to account for the rapidity of its action and its powerful effects.

Pneumonia, erysipelas, and typhoid fever are not much influenced in their course by the administration of resorcin, but on intermittent fevers it seems to have a specific antidotal action. As a disinfectant, and for external antiseptic application, resorcin may also be conveniently employed.

The Treatment of Rupture of the Uterus.—In a recent number of the *Zeitschrift für Gynækologie*, Dr. Frommel, of Berlin, reported a case of perforating uterine rupture, which had been successfully treated by establishing abdominal drainage and irrigating the peritoneal cavity with carbolized water. The author now reports two new cases, which, under similar treatment, likewise recovered. The first case was that of a small woman, aged forty, who had given birth to twelve children. Three of them had been delivered by artificial means. During her last confinement the labor-pains suddenly ceased, and a subsequent very painful examination showed that the child had partially escaped from the uterus into the abdominal cavity. With some difficulty a dead fœtus was extracted, and an examination now revealed a transverse rupture of the uterus at its lower segment near the cervical junction. The uterus was almost completely torn off, only anteriorly and to the left a bridge of tissue existed, measuring about five to six centimetres. The peritoneal coat, however, was not ruptured, but had been stripped off by the protruding fœtus. The entire cavity was cleansed by a copious irrigation of a warm aqueous solution of carbolic acid (two per cent.), and a thick drainage-tube was then inserted. Ice was applied over the abdomen. The patient never vomited, her pulse was always good, her temperature never rose above 100.4° F. Only one intra-uterine injection was practised through the drainage-tube, which was removed as soon as the discharge ceased. This occurred on the twenty-sixth day after the accident. Two days later the patient was able to leave her bed, and shortly afterward was discharged in apparently perfect health.

Case II. was that of a woman, thirty years old, who in her youth had suffered from rachitis. She had had three confinements, each with tedious labor. Uterine rupture took place, perhaps in consequence of the administration by a midwife of four ergot powders. Prof. Schröder succeeded in extracting the dead child, which, together with the placenta, was found lodged in the abdominal cavity. The treatment was in all respects similar to that adopted in the first case, with the difference that, in the present instance, carbolized injections were made through the drainage-tube every time the temperature rose above 100.4° F., which occurred on several evenings.

In his remarks on the successful termination of these cases, the author observes that this plan of treatment is much to be preferred to laparotomy. But he admits that it is applicable only to cases in which septic infection has not already taken place, though he adds that laparotomy under such circumstances would also necessitate a bad prognosis.-*Centralblatt für Gynæk.*, August 28, 1880.

The Hypodermic Injection of Alcohol and Similar Substances in Diseases of the Blood-Vessels.—Dr. Schwalbe, of Magdeburg (Virchow's Archiv, vol. lxxvi., p. 511), relates his experience with this method, suggested to him, as early as 1872, by V. Langenbeck's recommendation of the subcutaneous use of ergot dissolved in alcohol and glycerine. Schwalbe found alcohol injections serviceable in varices, varicocele, and hemorrhoids. Hasse also treated successfully several cases of telangiectasis. Schwalbe practised above 3,000 hypodermic injections with a solution of ethyl alcohol, varying in strength from fifteen to eighty per cent. In all these cases suppuration was observed only eight times: twice owing to the use of an unclean canula, twice because a blood-vessel had been pierced, and four times because the injections were made at insufficiently long intervals. Schwalbe's method is as follows: the hypodermic canula is first introduced under the skin, in the direction of the vessel, and at a distance from it of about three centimetres. Then, provided a blood-vessel has not been struck, the syringe is secured to the canula and its contents slowly injected. If the skin show considerable tension he immediately stops the injection, rapidly withdraws the canula, and places a finger upon the puncture. The subsequent pain varies in intensity, and may last two hours. Then the skin usually turns red, and begins to swell, sometimes for a considerable distance beyond the point of injection. After several days, however, all these symptoms disappear, and the operation may then be repeated, the point of injection being moved a little nearer to the vessel. In this way a cure is usually effected after from three to ten injections.—*Schmidt's Jahrbücher*, July 26, 1880.

A New Medical Journal, called the *Rocky Mountain Medical Review*, has recently been started at Colorado Springs, Col. It is a monthly journal and is the organ of the State Medical Society. The editorial announcements state that it will be devoted to encouraging a better knowledge of the state as a sanitarium, and to promoting the general interests of the medical profession there. The first number contains some very well written criticisms, and the general appearance of the journal is highly creditable to its editors.

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GEORGE F. SHRADY, A.M., M.D., Editor.

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THE CLIMATE-CURE OF PHTHISIS.

In a previous issue we made some remarks regarding climate-cure in general, and alluded at the time to the necessity of a closer study of the subject on the part of physicians. The importance of this question of climate-cure can hardly be overrated, and we make no excuse, therefore, for discussing it again in that particular phase which relates to phthisis. We have intimated that physicians were by no means sufficiently well informed, as a rule, upon this subject; and when it comes to exactly fitting the proper climate to each particular form or stage of phthisis, we fear that few, if any, can uniformly succeed.

This last fact, however, is not so much the fault of the physician as the fault of the science. Climate therapeutics has not yet reached even an approach to maturity as a practical science. There are, certainly, some general facts that are quite well established in regard to the proper kinds of climate for the sick, but an examination of the literature of the subject will be apt to leave the reader in a state of much confusion as to where are the ideal climates, and which he should most recommend.

There are five fundamental characters which are especially studied in connection with the therapeutic effects of any climate. These are its relative humidity, its purity, its temperature, equability, and density, the last being a quality that has been more especially investigated of late years. In addition to these there are various minor qualities, such as the prevailing winds, the diathermism, the electrical tension, prevalence of ozone, etc., which have also to be considered. At present, it is probable that cool, dry, and equable climates have received the strongest commendation. Dr. Henry Bennett claims that a climate of this kind is the ideal one for phthisis, and speaks strongly against cold of mountain sanitaria on the one hand, and the warmth and moisture of such places as Madeira and Florida on the other. Mentone and the neighboring places on the Mediterranean furnish, he considers, the conditions in question most perfectly. In this country the coast of southern California has, to some extent, the same desirable characteristics. But authorities are now arising, who, while not denying the value of coolness and equability, claim that a rare atmosphere, provided it is dry, is an element that is of very great importance in the cure of phthisis. The increase in number of mountain sanitaria in Europe, and the growing popularity of Colorado, furnish evidences that physicians are looking with favor upon this peculiarity of climate as a help in pulmonary disease. The fact that phthisis does not occur in localities at an elevation of 5,000 or 6,000 feet or more, is adduced as an *a priori* argument in favor of the special value of a rare atmosphere. Some statistics have been compiled to support this view, and ingenious physiological theories advanced to satisfy the craving for scientific explanations. Now, while it cannot be denied that the climate of elevated regions often does a great deal of good to phthisical patients, its real value is far from being perfectly determined, and we are by no means sure that it has not been exaggerated. It is true that phthisis does not exist at high altitudes, but neither does it exist at certain low altitudes, such as that of the islands to the north of Scotland, and in other places along the north coast of Europe. And yet these localities would probably be the last to be recommended as sanitaria for the phthisical. Furthermore, although high altitudes may have a monthly or yearly equability of temperature, yet the rarity of the air makes it impossible that there should not be sharp diurnal rises and falls, corresponding with the rise and setting or even clouding of the sun. The theories to explain the special physiological effects of a rarefied atmosphere, contain, doubtless, some elements of truth, but they are incomplete and conflicting. We may instance the theory of Jourdanet, who believes that the inhabitants of high altitudes have a deficient supply of oxygen and an excess of carbonic acid in the system, a condition which secures to them immunity from phthisis. Dr. Wm. Marcet has recently tried to prove that at high altitudes oxygen penetrates the pulmonary tissue more rapidly and easily. In this way he would explain his observations to the effect that as a person ascends to a higher level, the amount of oxygen inspired decreases, while the amount of carbonic acid expired increases. A prevalent belief is that a rare atmosphere acts upon the pulmonary surface like a cupping-glass. In this way it hurries on the blood, and relieves stasis and threatened inflammation. We can only conclude from all this that there is as yet neither sufficient physiological knowledge or statistical evidence to settle definitely the true value of high altitudes.

We would not be understood, however, as inclined to underrate the efficacy of these regions. The atmosphere always presents the essential elements of purity and dryness. It is also either cool or cold, and has a certain kind of equability. There is, just now, hardly any more popular health-resort than Colorado. And this state furnishes a much better kind of high altitude than can be found in Europe, since at the same level the temperature is milder and vegetation flourishes.

But while climates, such as Mentone and Colorado represent, are claiming so much superiority, it should not be forgotten that there are other regions which have very strong advocates and which undoubtedly are in many cases preferable. The cold, dry balsamic, and tolerably equable climate of the Adirondacks in winter has a well-attested value in the treatment of phthisis. The low temperature and dryness of Minnesota, the pine districts of Georgia, and the warm and equable climate of Florida, have given these places a deserved reputation as sanitaria. Despite the statements that warmth and moisture are bad for phthisis, there is no question whatever as to the efficacy at times of sea-voyages, or of a winter in Florida or Madeira.

With all these facts before us, it is easy to see how difficult it may often be to form a good judgment regarding the best place to which a phthisical patient should go. There is but one common element underlying the whole of climate therapeutics, and that is the change of air. In each individual case there are, of course, certain facts which make the determination of a suitable climate easier. These are well enough known, and we need not dwell upon them. But we would insist that, with the present increasing tendency to treat phthisis by climate-cures, the physician should be aware of the responsibility he is under in deciding where the patient shall be sent. There is undoubtedly a best place for each case of phthisis; and there is not any ideal spot as yet known which meets all conditions and is suitable for all phases of the disease. The problem is to fit the proper climate to each patient. And that this may be done intelligently and successfully, further study of climate therapeutics is needed. We can only say now that probably dryness, purity, coolness, and equability meet the most indications, but that atmospheric rarity, coldness, warmth, ozone, electricity, balsamic odors, and various local conditions or personal idiosyncrasies, must often be given a high prominence in the selection of the best climate for a particular case of phthisis.

THE RATIONALE OF NERVOUS SLEEP.

SEVENTEEN years ago, in 1843, Mr. James Braid, M.R.C.S., of Manchester, England, wrote a book entitled "Neurypnology; or, the Rationale of Nervous Sleep." A few years later the same author published a work on trance, and in 1852 a second work on hypnotism.

Mr. Braid wrote these books at a time when the excitement over mesmerism was at its height. Harriet Martineau had become a convert, and, though unable to believe in a God, was profoundly convinced that some people could see through a board, and that her abdominal tumor had been dissolved by magnetic fluids. Mesmerism had fastened itself upon medicine. There were mesmeric infirmaries, mesmeric hospitals, and a vast crowd of medico-magnetic healers. Even educated physicians of high standing endorsed it and used it in their hospital wards.

In Mr. Braid's first book, while some of the phenomena were accepted as facts, the theory of a magnetic fluid, or of any occult influence, or *deus ex machina*, was denied; and the work was an effort to show what phenomena were genuine, and how these might be explained by natural laws. But Mr. Braid was too skeptical for the mesmerists and too liberal for the conservative members of the medical profession. The consequence was that his work was ignored by subsequent physiologists, and it dropped into oblivion, along with the delusions which it exposed. Mr. Braid's memory is handed down to posterity by Mr. Allibone, with the single comment, quoted from Dugald Stewart, "Too great skepticism is equally the child of imbecility with credulity."

The author of Neurypnology was thus forgotten, but his memory has been recently and unintentionally revived. A short time ago, Professor Rudolf Heidenhain published, at Leipsic, a treatise on hypnotism. The facts and conclusions given in this treatise were very similar to those of Braid, though Heidenhain appears to have been entirely ignorant of that author. This recent work on hypnotism, however, was at once noticed by physiologists, and the subject received prominent attention at the last meeting of the British Medical Association.

Professor Heidenhain made most of his experiments upon medical men and students. He found that, out of ten persons, three or four were susceptible of the hypnotic influence, these being generally of a nervous temperament, though not abnormally so. He distinguished, as did Braid, three stages of the condition, which differ chiefly in intensity. The patient, being subjected to gentle and continuous sensory stimuli, and his attention being fixed, falls into a hypnotic state. If this is slight in degree, he remembers what has passed when he returns to his normal condition. If the sleep is deeper, his remembrances are partial. If he reaches the third stage, all memory of what occurs in it is lost.

A patient in the third stage of hypnotic sleep presents many curious phenomena. His consciousness and volition are in abeyance. These faculties seem to be inhibited, leaving the subject mostly under the control of the basal ganglia. His sensory perceptions remain, but are much changed. He is very sensitive to some kinds of stimuli, such as cold and heat, a breath of air, gentle strokes, the sounds of the voice. On the other hand, he may be cut, pinched, burned, or a pistol may be fired off close to his ear, and there is no response.

There is a strong tendency to imitation. He repeats sentences that are uttered, follows a person about the room, imitates muscular movements. There is a tendency to perform such actions as the habits of the individual have accustomed him to; the proper initiatory stimulus being given, the patient becomes an automaton. Reflex sensibility is greatly heightened, as might be expected, from the lessened authority of consciousness. There is a tendency to tonic spasms; and, what is curious, such spasms may last for days after the patient has come out from the hypnotic condition. Stimulation of different parts of the skin brings out different reflex effects.

Braid tried to deduce from this a certain law which he called that of the "anatomy of expression." His theory was, that if the muscles oftenest used in connection with the expression of a certain emotion were stimulated, such emotion, by association, would be called out. In other words, he believed that in the hypnotic state the higher faculties were set at work by stimulating some of the lower organs. He asserted that facts proved his theory. Heidenhain found that when he stroked the back of the neck, between the fourth and seventh cervical vertebræ, the patient emitted a gentle sighing sound. By stroking the left side of the head, he produced aphasia; by stroking both sides, the patient became cataleptic. There were many other interesting reflex phenomena. Thus, the hypnotized eye is color-blind and its accommodation paralyzed. By pressure on, or by speaking against the seventh cervical vertebra, or the epigastrium, imitative sounds were produced. So, a tuning-fork, placed on the same regions, produced a like effect. By this latter instrument the sensitive regions could be mapped out.

It is stated by Heidenhain that the respirations of the hypnotized persons are increased fourfold, and the pulse is also more rapid than usual. Braid, on the other hand, asserted that the respirations were lowered, and he believed that the carbonization of the blood thus resulting was one of the factors in producing the hypnotic condition. The other factors were absorbed attention and gentle sensory stimuli. Among other phenomena which this latter author pointed out as belonging to hypnotism, were an exaltation of the imagination, the excitation of memory by sensory stimuli, an extraordinary sensitiveness to heat and cold, and the existence of "double consciousness." By this latter was meant that a person, when hypnotized, might do things which he had no remembrance of when he returned to his normal condition. When hypnotized again, however, he recalled, with perfect readiness the acts done in his first hypnotic state. This phenomenon, which is well enough known now, Braid claims to have first discovered.

We have no intention of giving any complete account of the phenomena of hypnotism. There is much yet to be learned in regard to it, and much to be inferred from it. As it appears now, the condition at the base of it all is one in which there is an inhibition of consciousness and volitional control, with extraordinary exaltations, depressions and perversions of the sensory apparatus, both special and general. Even apart from Braid, hypnotism is not a new thing, and, although since his time no one has studied it so thoroughly as Heidenhain, there have been contributions by Carpenter, Huxley, Beard, and others, which should not be forgotten. But no one has ever spent so much time and labor, or had so wide an experience with hypnotic persons, as Braid; he was the first and largest contributor to its literature, and it is but justice that his name be not forgotten.

Reviews and Notices of Books.

Diseases of the Pharynx, Larynx, and Trachea. By Morell Mackenzie, M.D., London. Pp. 440. New York: William Wood & Co. 1880.

Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Œsophagus, Nasal Cavities, and Neck. By Morell Mackenzie, M.D., London. Vol I., pp. 570. Diseases of the Pharynx, Larynx, and Trachea. Philadelphia: Presley Blakiston. 1880.

Hygienic and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears. Part I., pp. 166. By Thomas F. Rumbold, M.D. St. Louis: Geo. O. Rumbold & Co. 1880.

A Practical Treatise on Nasal Catarrh. By Beverly Robinson, A.M., M.D. (Paris) pp. 182. New York: William Wood & Co. 1880.

The two books first named are the same, but the titles differ slightly. The work of Dr. Mackenzie has been wisely chosen as one of *Wood's Library of Standard Medical Authors* in the series for 1880, for there is a demand for a treatise on this subject which shall bring the latest literature before the profession. The volume before us is to be shortly followed by a second and concluding one on the Œsophagus, Nasal Cavities, and Neck. The author of this work has had a large experience in both private and hospital practice extending over the past twenty years, a period of time that has witnessed the development of a special practice in laryngology. His methods for recording the details of history and treatment are known to have been accurate, and when the large number of cases thus observed is taken into account, we have a right to expect that the author's book will be one of the best of its kind that has yet been produced. An exhaustive review of such a book, however desirable, must give way to some practial views concerning its salient points, and it may, therefore, be stated in general that its plan of construction is a good one. At the beginning there is a condensed but sufficiently complete scheme of the special anatomy most needed in connection with the text, followed by brief but clear directions for the examination of the pharynx, the subject first treated of in the book. Illustrative woodcuts are introduced where it seems desirable to make the description of the instruments recommended for use more easily understood; and it may here be stated respecting the illustrations throughout the book, that they appear to have been well selected, without the unnecessary profusion that characterizes some literary efforts.

The arrangement of the diseases treated of appears to be very satisfactory, the nomenclature adopted being calculated to make the subject clear to the reader; but all doubts respecting this point vanish under the author's *definition of subjects*, which comes next in order, and is remarkably clear and succinct. The systematic treatment of each subject is strictly adhered to throughout, and the entire text is well written—it is, in fact, a marvel of good English, the clear and precise style rendering the book's perusal easy and pleasant, although the matter is by no means unscientific.

The author exhibits a discriminating judgment in availing himself of the literature at his command, bringing most effectively into the text the thoughts of others, yielding full credit either in the text or in the foot-note references, the latter being numerous and conveniently arranged.

Many of the chapters in Dr. Mackenzie's work are monographic in merit, and in themselves would command attention. The chapter on diphtheria may be cited as an example of this kind, its history being given from Hippocrates to the present time. Of the etiology, symptoms, pathology, and prognosis under which, respectively, each subject is treated, we can in general only speak in praise, but as regards treatment, Dr. Mackenzie's methods will not, we feel sure, command the same endorsement here that will be most heartily awarded to most of his writings. There is here a growing dislike for ready-made preparations such as Dr. Mackenzie recommends in his book for almost every symptom. These may serve for the hasty, not to say superficial, treatment of hospital patients, but it is safe to predict that they will not be generally accepted by physicians for use in private practice; and, indeed, it may well be considered a reflection upon one's intelligence to have thrust into prominent notice, on almost every page of the book, the preparations of the "Throat Hospital Pharmacopœia." That the author should become, from strong contemporaneous influences, partial to local treatment is not strange, especially when we consider how strong the tendency to such methods has been. That this is notably a weakness in specialism generally goes without saying, and we allude to the matter here but briefly, feeling that, whatever the practices abroad may be, upon the whole the abuses of local treatment among physicians here is daily becoming less popular. We shall have to be content with citing a few examples only of the author's treatment: in tonsillitis, for example, the tincture of aconite, in doses of two to five minims every three hours, is recommended as sometimes efficacious. For this remedy, he informs us, we are in great measure indebted to homœopathy. The homœopathicity of this drug is claimed by homœopathic writers to lie in its power of setting up the essential phenomena of fever, and of its action upon the same parts and in a similar manner, that it controls this condition when already present (Hughes). With this therapeutical idea for a guide, infinitesimal doses are administered by the exclusive system of practice, and we are unable, therefore, to understand why Dr. Mackenzie uses such large doses—one might hesitate long before thus administering the drug "in doses of two to five minims every three hours," especially as the British pharmacopœia directs that the tincture shall be prepared from the root.

The author speaks of controlling, in all cases, the hemorrhage following excision of the tonsils by the use of a tanno-gallic acid gargle, which is composed of the following ingredients: ℞. Acid. tan., gr. ccclx.; acid gallic, gr. cxx.; aqua, ℥ j. M. Half a teaspoonful of this mixture is to be sipped at short intervals in order that during the act of deglutition the styptic fluid may be worked into the cut surface of the tonsil, "and," he then says, "the hemorrhage is effectually restrained in all cases." We should hesitate to allow a child to swallow many sips of this mixture, and, indeed, we are inclined to doubt its infallibility "in all cases." In taking leave of Dr. Mackenzie's book, we can but say that it will justly take its place among the standard medical publications of the day, and whatever we may think of its therapeutics, it is, to say the least, a faithful record of the least objectionable features of a period in special practice when the local treatment of some affections has been greatly overdone.

We speak thus regarding this matter from a strong conviction that other specialties must eventually undergo the same reformatory elimination as to treatment that the past twenty years has witnessed in gynecology, where the shameful practice once existed of applying cauterizing agents to the os uteri of every confiding woman who submitted herself for treatment. The book under review is well made in both editions; the first-named is uniform with the other works in Wood's library, and the last-named is well printed in plain type.

The two little books of Drs. Rumbold and Robinson, although touching on the same topic so extensively treated of by the Englishman just noticed, are, perhaps, better suited for popular reading than the use of the physician, for they both show considerable thought in the hygienic aspect of the subject. Dr. Rumbold's book is to be followed by Part II., which will be devoted to "therapeutic and operative measures." As far as chronic inflammations of the throat and nose are concerned, this author's methods (hygienic?) do not greatly vary from those recommended by others, but he has, as a laryngo-aurist, carried into the field of aural surgery some views that are quite novel in their character. As such literature in this country has not hitherto had an existence, we may be pardoned for drawing upon Dr. Rumbold's book for some examples of its earliest efforts. The author dives into the subject rather abruptly, for he begins with a chapter on cleansing the ears. He says: "Whenever the secretion of an inflamed middle ear is so excessive that the mucous membrane cannot absorb it, then it must be removed by mechanical means. The means taken to accomplish this should not cause the least irritation, and it should apply the irrigating fluid to every portion of the tympanic cavity." The author's means for the accomplishment of this irrigation consists in forcing warm salt water into the middle ear through a tight-fitting appliance introduced into the meatus externus, that permits the water to rather slowly escape again from the ear through a small opening; this irrigation is to be continued while the patient performs a complete circle with his head from five to ten times, the number of revolutions depending on the size of the opening in the drum (drum-head?). The object in performing these circular movements is to allow every portion of the tympanic cavity to be, at some stage in the procedure, in a position to favor the escape of the retained air that otherwise would prevent the water from coming in contact with all portions of the cavity. The author's allusion to the absorption of the secretions of an inflamed middle ear by the mucous membrane implies a greater confidence in the curative powers of nature than most physicians possess; and his method for removing the unabsorbed secretions is certainly a very wide departure from that confided to nature in the first instance. It is not likely that this teaching will become popular either in domestic or other practice. In the next chapter the author introduces the subject of the teeth. He says: "I have observed for many years that diseased teeth and gums tend to maintain the catarrhal inflammation of the mucous membrane of the nasal and pharyngo-nasal cavities, the throat and ears." In what manner diseased teeth produce these effects the author does not make clear, nor does he state why he has kept this important knowledge from the profession for so many years. The book is printed on good paper, but is full of typographical errors, etc., showing an undue haste in preparation and publication.

Dr. Robinson, at the outset, enters into a consideration of the prophylaxis of the subject, which, however, seems intended to cover the same ground occupied by Dr. Rumbold under the head of Hygiene and Sanative Measures. If the author intended this portion of the book for the instruction of physicians it could well have been abbreviated, or even omitted altogether; if for the nursery, it would bear simplification. Space will not permit a lengthy examination of the merits of this work, but before quitting the subject we would again draw the reader's attention to some points that will further illustrate the influence some of the tendencies of special practice have in the direction of bringing our therapeutics into further disrepute: we hope that pointing out the defects in the book before us may have some influence upon those who are interested in these matters and thus hasten a much-needed reform in this direction. We shall, therefore, begin by an examination of Dr. Robinson's treatment of the acute coryza of infants. It will not be necessary to bring in here all that is said concerning the management of these cases; we will only allude to a local method described on page 68. This treatment consists in blowing into the anterior nasal passages of the infant, by means of a powder-blower, the following mixture: ℞. Camph. pv., sacch. alb., āā ʒ ss., acid. tannic., grs. xl.—lx. After one or two applications of this powder the infant, it is asserted, is enabled to sleep, and the mucus is prevented falling back into the throat. The author says: "Another great advantage to be gained by a thorough application of this powder is the power which it gives to the infant by opening its nasal passages to suck its mother's breast, or take the feeding-bottle without being obliged to let go its hold with a distressing cry every few minutes." This will, perhaps, be considered a doubtful procedure by physicians, although the author gives some encouragement to the timid who may feel disposed to try the treatment on his recommendation; on page 153 he says: "In my opinion local treatment (no matter what may be its conditions) is *never* so efficacious as it is frequently believed to be." And on page 154 the author states that it is *physically impossible* for powders to reach the numerous folds and infractuosities of the mucous membrane lining the nasal fossa. Thus, in speaking of parts long affected by chronic processes, but respecting the acute coryza of infancy, the author says: "So soon as these passages (the nasal) are at all inflamed, they become rapidly almost impervious to air" (page 57). Further on, in the treatment of acute coryza in general, the author says (page 61): "In my own experience, however, I have found it preferable in these instances to give the first night a full dose of some simple diuretic and diaphoretic medicine which acts upon the skin and kidneys, but is not followed by almost absolute loss of appetite and great dulness of intellect the next morning." We shall not pause here to quote the formula that possesses the power to act as a diuretic and diaphoretic at the same time, believing, as we do, that the skin and kidneys cannot be thus influenced by treatment.

In speaking further of acute coryza the author gives the following advice: "If one is compelled to go out into the open air when it is cold, during an attack of coryza, it is wise to protect the ears by some outer covering, as it prevents, in a certain degree, the coryza from extending itself into the pharynx, and still further along the respiratory *tract*." This statement will be quite new to many, but further confirmation will be required before it is generally accepted.

We rise from a somewhat careful perusal of these works impressed with the belief that the sooner a line is drawn between medical works intended for the instruction of the profession and those apparently written for their use, but really intended for the laity, the better it will be for the interests of scientific medicine.

Diploma-Mills in San Francisco and Boston.—The *Pacific Medical and Surgical Journal* gives an exposé of a certain "eclectic" medical school in Oakland, California. From its account this school does not appear to furnish very much more education than did Dr. Buchanan's colleges. Eleven persons were graduated, it is said, in 1879, and only one of these had had more than a year's training. Furthermore, three of these medical yearlings have been appointed to professorships in the college. There are still worse facts regarding this institution which the editor of the *Journal* holds in reserve. As the existence of a bogus college must entirely neutralize the effects of the medical law in California, the profession of that state ought to do everything possible to put a stop to its work.

The Boston *Herald* has recently exposed a bogus institution known as "The New England University of Arts and Sciences," which has flourished in the modern Athens for several years. The "dean" in this case was a "Dr." Henry C. Stickney. The University was incorporated by the New Hampshire Legislature in 1875, but the charter was repealed the next year. The diplomas were chiefly medical, and cost from $100 to $145. Some of them had been presented to the Board of Health of Illinois. Stickney acknowledges most of the charges made against him, and his business will doubtless be permanently closed.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 13, 1880.

Dr. Satterthwaite, President, in the Chair.

CASE OF DOUBLE INTUSSUSCEPTION—POLYPOID GROWTH OF INTESTINE.

Dr. E. C. Wendt presented a specimen of the above, for which he was indebted to Dr. Haupt, House Physician to the St. Francis Hospital, who was one of the attending physicians during the patient's last illness.

A tinroofer, æt. 24, who had previously enjoyed perfect health, was suddenly seized with severe abdominal pains. This occurred on Thursday, the 30th of September last, while the patient was walking the streets in search of employment. Although, as he stated, the pain continually increased, he was nevertheless able to return to his home, and subsequently to consult a physician. The pain meanwhile had grown so intense that he lost all mental control, and even attempted suicide by jumping into the East River. Dr. Haupt saw him for the first time on the evening of the following day, *i.e.*, October 1st. The following observations were recorded by him: Patient found in dorsal decubitus, with knees drawn up, complaining of nausea and pain over the entire abdomen. This was most severe in ileo-cæcal region. It was further learned that since Wednesday no movement of the bowels had taken place, nor had the escape of flatus been noticed. The urine had been scanty, and there was pain on micturition. Pulse was 118, but a febrile movement was not noticed. He complained very bitterly of a distressing thirst; but, though he drank repeatedly, the swallowed fluid was almost immediately returned. Acute intestinal obstruction was diagnosed, and opium and quinine ordered. On the following morning the patient was again seen, and though he complained less of pain, the symptoms of obstruction were now more marked. Spontaneous vomiting of fluid matter, having an unpleasant intestinal, though not decidedly fecal odor, now occurred. The oppressive thirst continued. There had been no rectal evacuation, no escape of flatus; the urine was almost suppressed. Pulse feeble, 152; temperature still normal. Dr. Haupt then advised him to enter a hospital in order to have laparotomy performed, as this was his only chance of getting well. Another physician having been summoned, who gave his opinion that the patient would get well shortly, Dr. Haupt saw no more of the case until Sunday morning, when curiosity prompted him to make another visit. The vomiting was now almost incessant, the fecal odor of the vomited matter was more pronounced, and the patient was evidently much worse. The case was thought to be one of intussusception at this time. On Monday the patient was brought to the St. Francis Hospital, a distance of about ten blocks, but he died very shortly after his admission.

At the autopsy, performed shortly after death, the following appearances were noted: The body was somewhat emaciated, the face looked pinched, the abdomen was but slightly distended, rigor mortis incompletely developed. Palpation of the supple belly revealed nothing in the nature of a tumor, not even a conspicuous hardness was anywhere discernible. On opening the abdomen all the viscera appeared to be normally situated. A coil of small intestine in the hypogastric and left inguinal regions was at once remarked from its conspicuous reddish brown discoloration. In this neighborhood slight adhesions of recent origin existed, so that the loops of intestine were here loosely matted together. Elsewhere the signs of peritonitis were less marked. There was slight general congestion, with occasional areas covered by delicate pseudo-membranes, and the peritoneal cavity contained about three ounces of a turbid, sanguinolent fluid. Upon closer examination it was ascertained that the small intestine was invaginated at a point about midway in distance between the duodenum and ileo-cæcal valve. A constriction was found in the gut at a point corresponding to the site of most intense congestion and discoloration. Above this spot the intestines were distended with gas and fluid. A soft, sausage-like tumor was felt below the constricted portion, extending downward somewhat over eight inches. Beyond this point the intestine was still of a purplish hue, and appeared to be distended by thick contents for the distance of several feet, where the distention stopped rather suddenly Below this place the intestine was completely empty, constricted, and shrivelled up into thin, cord-like masses. The invaginated portion was then removed, together with a piece of intestine on either end of it. On opening the gut above the constricted portion, ordinary intestinal contents of a somewhat fecal odor escaped. The other end of the gut, however, contained only a grumous bloody mass without any marked odor, and some fluid blood.

The intestine covering the invaginated portion was then opened, disclosing the latter, which appeared to be bathed in the bloody grumous matter above mentioned. After washing the mucous coat of the inclosed part it was seen to be somewhat roughened, and the entire piece of intestine was deeply congested, greatly swollen, and somewhat macerated. A further examination showed that the entire eight inches of invaginated gut contained a second intussuscepted piece of gut having about the same length. The constricted portion was found to correspond to what appeared to be a superficially ulcerated mucous polypus about the size of a hickory-nut. The intestinal walls opposite this polypus were extremely attenuated, and in fact, while the specimen was being removed, they ruptured, allowing a very small quantity of pus to escape. The most internal of the invaginations, judging from the absence of extensive pathological changes, was apparently the more recently formed of the two.

This case appeared to have a two-fold interest: first, as regards its etiology, and second, as regards its surgical aspects. Laparotomy was evidently indicated from the first, and its performance would probably have saved the patient's life.

Dr. Briddon remarked that there were several cases of intussusception on record which were associated with polypoid intestinal growths as a cause. Such an one formed the text of an exhaustive monograph by Dr. Samuel Whitall, of this city. In regard to the indication for laparotomy, he did not think that there was any question.

Dr. Howe concurred in the latter opinion, and expressed the belief that many patients were allowed to die whose lives could have been saved by the operation.

Dr. Satterthwaite asked if the injection of air and of water were not sometimes successful. He had read of such cases.

Dr. Briddon believed that such measures should be resorted to before performing laparotomy.

Dr. Ripley remarked that a large number of cases were relieved by injection. He had recently seen a case in point. The patient was a child six months old, who had suffered from symptoms of invagination for twenty-four hours. The injection of warm water was made by means of a No. 13 catheter, attached to the india-rubber tubing of a bulb-syringe. The symptoms subsided immediately thereafter, and the child made a good recovery.

In regard to a question as to whether an injection could pass the ileo-cæcal valve, he stated that such a possibility had been proven on the living subject. He had frequently verified it upon the cadaver. He considered that water was better than air, as the latter tended to keep up an uncomfortable tympanites afterward.

Dr. Briddon remarked that it was generally easy to discover a tumor before tympanites set in.

Dr. Ripley remarked that in his opinion the presence of a tumor could not always be made out. A case of invagination had occurred a few weeks before the meeting, in which the whole question of diagnosis turned upon the existence of a tumor. An accomplished surgeon was called in, but because no tumor could be discovered he declined to operate. An autopsy of the child a few days afterward showed well marked intussusception.

Dr. Howe suggested the advisability of puncturing the intestine in doubtful cases where tympanites existed, with a view to removing the gas.

Dr. Briddon presented, on behalf of Prof. Detmold, a specimen of ungual exostosis of the distal phalanx, which that gentleman had removed by amputation through the proximal joint. Dr. Briddon also exhibited, on behalf of Dr. Hardrich, of Brooklyn, a specimen of

CALCIFIED DEGENERATION OF THE MUSCULAR WALLS OF THE HEART.

I. S——, aged twenty-six years, married, brewer by occupation, German; entered St. Catherine's Hospital, September 11, 1879.

History.—Parents died when he was young, he had two attacks of acute rheumatism before marriage, which occurred two years ago. Has been sick since last April with his present illness, having had but slight temporary amendments at short intervals; this last attack began with vomiting, dyspnœa, præcordial and lumbar pain, and palpitation, rigors and fever, scantiness of renal secretion, œdema of the feet, restlessness, and marked irritability.

Present condition.—Is anasarcous, has orthopnœa, irregular action of the heart, and says he has not voided urine for forty-eight hours.

Physical signs.—Eyes protruding, face cyanotic and tumid.

Chest-expansion deficient on both sides; præcordial region retracted in inspiration; percussion reveals diminished resonance over entire surface; area of cardiac dulness increased, but it was not possible to map it out with accuracy on account of the infiltration of the parietes. Auscultation revealed small crackling râles over entire chest; the heart-sounds were obscure, neither first nor second could be distinguished, being masked by a peculiar swashing sound such as might be produced by walking in shoes filled with water. Abdomen-walls œdematous, fluctuation obscure; legs were swollen, but the scrotum was free from infiltration.

Pulse intermits every tenth beat, irregular in force and volume.

His condition gradually became worse, without marked change in any of the physical signs, and he died September 19th, eight days after admission to hospital.

Autopsy twenty-four hours after death.—Rigor mortis incomplete.

Chest.—About a pint of clear serum in each pleural sac; lungs collapsed and in condition of marked hypostatic congestion.

Heart.—Pericardium firmly adherent to chest-wall and its enclosed viscus; all attempts at separation were of no avail. There were a number of hard nodules in the structure of the heart itself, varying in size from a pea to a hickory-nut. A section of the largest of these presented a cavity filled with disintegrated pus. The walls of the cavity were brittle and in a condition of calcific change; the smaller ones were of the consistency of cartilage, the larger projected into the left ventricle.

Abdomen partly filled with serum; liver enlarged, friable; capsule non-adherent, color dark blue.

Kidneys five inches in perpendicular, three in horizontal, diameter; capsule non-adherent; cortical substance increased and distinctly separated from pyramidal portion by a line of a deeper hue than that adjoining, but the entire organs were deeply congested.

Dr. Briddon also exhibited a malignant tumor of the left breast that he had removed from a married colored woman, aged thirty-five years, a patient at the Colored Home. It presented the usual appearances of carcinoma, but in the centre of the diseased mass was a quantity of effused blood. The specimen was accompanied by a detailed history furnished by Dr. Burke, resident surgeon.

Dr. Ridlon presented an encysted thread which had encircled the penis of a boy, aged seven years, since last Christmas. It was not tight enough to produce any degree of strangulation, was discovered by accident, and was removed without difficulty.

INTERMITTENT HEPATIC COLIC FROM GALL-STONES.

Dr. Satterthwaite presented, on behalf of Dr. Castle, a specimen of multiple abscess of the liver, the result of intermittent obstruction of the common duct by gall-stones. The patient was a widow, aged forty-five, a native of New York. She enjoyed good health until four years ago, when, after an attack of intermittent fever, she began to suffer from attacks of nausea, constipation, and vomiting. Eighteen months ago, during one of these attacks, she became jaundiced, and so remained. At the time of her admission to the Presbyterian Hospital her skin was of a greenish hue, and emaciation was marked. Her stools, for the most part, were clay-colored, but occasionally they would contain bile, especially after an attack of hepatic colic, from which she would suffer at stated intervals. She finally died from exhaustion, September 30th.

At the autopsy the liver was found to be studded with small abscesses and deeply bronzed. At the first division of the hepatic duct were two biliary calculi the size of marbles, lying in each duct. It was supposed that these stones caused an obstruction to the flow of bile by closing the ducts, and when the gall-bladder was sufficiently distended, that the bile overflowed alongside of these calculi.

The Society then went into executive session.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, October 12, 1880.

DR. H. B. SANDS, PRESIDENT, IN THE CHAIR.

NOTES OF CASES OF DISEASE OF THE UPPER CERVICAL VERTEBRÆ.

DR. LEROY M. YALE read the notes made in three cases of disease of the upper cervical vertebræ, and presented one of the patients for further examination and opinion.

CASE I.—J. C——, aged forty-two years, admitted August 12, 1880, to Ward 9, Bellevue Hospital.

Family history unimportant. Father died of heart disease at the age of sixty-six. Patient does not give a history of syphilis. He has had several attacks of inflammatory rheumatism, the first one twenty years since.

Four and a half years ago (March, 1876) patient fell from a trapeze, and was rendered unconscious for a time. He also sustained from the fall a cut of the forehead and lip, a fracture of the nasal bone, and a fracture of the left clavicle. There was pain and loss of power in the left arm for some time. The patient is not aware of any injury to the neck, and after the recovery from the injury to the shoulder was well until August, 1879, when he began to suffer from shooting pains in the back, neck, and forehead. A week later (about August 10th) his neck became stiff, like an ordinary "stiff-neck," as far as he can remember. He was then admitted to Ward 19 in Bellevue Hospital—a medical ward—and treated for "muscular rheumatism." He remained in the hospital three weeks, but without benefit. After leaving the hospital his pains became more severe, especially in the back of the neck. At this time muscular spasms first occurred. They have troubled him ever since, and are excited by a sudden touch, a false step, and the like. On account of these spasms he again entered Bellevue Hospital in December, 1879, and was again sent to a medical ward (No. 26), where he remained until March of the present year. During this stay in the hospital the symptoms were very marked, and during February the rigidity of the neck became greater, and he noticed a lump in the back of the neck in the mesian line. Shortly after this his jaws became stiff, and the lower one protruded. When he left the hospital in March, his head was drawn backward, as at present. He thinks the lump was a large one; that he had greater difficulty in swallowing, and that he could separate his jaws less widely than now. Certain movements of the jaws, as in rolling over a morsel, excite a shooting pain, which seems to start from the temporo-maxillary articulation and to shoot through the shoulder and down the inner side of the left arm.

Appetite good; eats very little solid food, owing to the difficulty of chewing it.

Examination.—Head inclined to left; chin depressed. The latter can be flexed against the sternum, and can be raised till the head is erect, but no farther. Rotation of head not over two inches. Movement from side to side about half normal. Jaws cannot be separated above half an inch. Slight lateral motion of jaws. Has no facial anæsthesia or hyperæsthesia. No marked atrophy of spinal muscles.

In the median line of the neck is a prominence larger than a horse-chestnut, the most prominent part of which apparently contains the spinous process of the axis. No tenderness on pressure. Concussion gives very slight pain. Some slight grating on moving the head.

The finger introduced into the pharynx detects a depression opposite the prominence in the neck, and a relative prominence immediately below it.

There is slight lateral curvature.

On the left side there is some loss of power, more of extensors than of flexors.

No hypertrophy of heart or murmurs.

Dr. Yale remarked that he subsequently learned that two members of the society, whose opinions he valued, had made diagnoses so diverse from his own, that he thought it better to present the patient for examination before stating his own diagnosis.

[The patient was then presented for examination.]

DR. L. A. STIMSON stated that when he saw the patient first, there was some difficulty in opening his mouth, perhaps more marked than at present; that there was great difficulty in swallowing, and that the position of his head was not materially different from what existed when he was presented to the society. He made an examination first with the finger, which encountered, behind the base of the tongue, a hard, prominent swelling that reached forward as far as the base of the tongue. The finger caused a great deal of gagging, and he was unable to carry it down over the base of the tongue. He then introduced a needle to the depth of half an inch into the projecting mass, but no cavity was encountered. The patient was then anæsthetized, and, with the finger, Dr. Stimson was able to feel distinctly a large, smooth, hard mass occupying, apparently, the entire pharynx. He then reintroduced the needle a little more directly than at first, and it struck bone almost at once. He thought it probable that, when the needle was introduced the first time, it passed by the side of the mass. The mucous membrane of the pharynx had a deep, red color, almost livid, and, apparently, was roughened and thickened. Posteriorly, there was a prominent spinous process, just below the occipital bone, which he regarded as the spinous process of the *second* vertebra. There was considerable thickening of the tissues on both sides of the neck, which was not painful, neither did pressure downward produce pain. The motions of the neck were quite free, both rotation and flexion, and were painless. His diagnosis at that time was tumor of the pharynx. None of the symptoms, however, had remained which then led to such diagnosis.

DR. T. M. MARKOE thought that the general features of the case were those of caries with displacement.

DR. G. A. PETERS inclined toward the impression expressed by Dr. Markoe.

DR. LANGE suggested the importance of determining, if possible, whether the elevation posteriorly corresponded with the projection anteriorly.

DR. YALE thought that the prominence in the pharynx was a little lower than the prominence upon the back of the neck, and it gave to him an impression as if one vertebra had slipped backward upon another.

DR. STIMSON thought that the prominence in the throat was lower than the one behind.

DR. YALE stated, with reference to diagnosis, that his own impression was that it was a case of disease of the spinal column, and, without too much insisting upon differential diagnosis, he was inclined to think that it was much more akin to spondylitis deformans than to ordinary caries, and that the nervous symptoms were the result of pachymeningitis.

DR. MCBURNEY remarked that the difference between the present and the previous condition of the patient's throat was very marked. At the time he made his first examination the impression made upon his finger was that the posterior wall of the pharynx was evenly and universally thickened. There was neither a special point of prominence nor depression, and no softening, but the entire posterior wall of the pharynx had a bony feel, and projected forward so as to touch the base of the tongue. Now, he could feel distinctly that the upper portion of the pharynx was quite deep, and that from a level with the upper surface of the tongue downward the pharynx was quite prominent, the difference in depth between the upper and lower portions of the pharynx being from one-half to three-fourths of an inch. He thought the present condition pointed very strongly toward caries with displacement.

Dr. Markoe asked whether the prominence in the back of the neck could be referred to the original injury?

Dr. Yale said the patient believed there was no connection whatever between the two, because, for three years after the receipt of the fall he was as well as ever, and he felt sure that the tumor did not appear until last February.

Dr. C. T. Poore referred to a *post-mortem* case in which he saw a swelling as low as the second dorsal vertebra, covered with very thick, hard integument, and the tumor came forward quite prominently. It was a case of caries, but there was no evidence of fluctuation at *post-mortem*, and there was scarcely any pus. In that case the patient suffered from spasm.

Dr. Markoe believed that Dr. Yale's case could be placed in the category in which there was caries with displacement without any appreciable quantity of pus, but with great thickening of the tissues about the seat of the disease.

Dr. Yale next presented the history of a case which he saw but a few times, but in which he was exceedingly interested. He was enabled to give the termination of the case and to show the specimen obtained at the autopsy, through the great courtesy of Dr. D. M. Stimson. He gave the history as it stands in his case-book, with some additional or explanatory notes (enclosed in brackets) regarding the earlier history of the case copied from the case-book of Dr. Willard Parker.

Case II.—B. D. P——, New Canaan, Ct., aged thirty-three years, occupation carpenter. Seen November 8, 1879. Family history good. Parents both living —one sister living. Patient says that he was always well until three years since, except that, when about eighteen years old, he had a carbuncle upon the back of the neck, scars of which remain. His present trouble dates back three years. About that time he fell from an apple-tree, striking upon the back of his head and shoulders. He was not rendered unconscious nor much hurt. He is not certain whether this fall preceded the pain in the occipital region or not, but is inclined to think that it did.

[Drs. Parker and Stimson subsequently learned that seven years earlier still—*i.e.*, ten years before the time of the taking of this history, the patient had fallen from a building, striking upon the head and shoulders. He speedily recovered from this fall, and continued well until after the second fall.]

This pain [experienced two or three days after the fall]—at first rather a grating sensation on motion—was dull in character. It was, and still is, referred to the neighborhood of the superior curved line of the occipital bone, and rather to its outer part (splenius and sterno-mastoid insertions). It began on the left side, but during the past year the
right side has also been affected in a similar wa
This pain has recently rapidly increased in severit
The patient informs me that he has, during t
course of the disease, been seen by Dr. Willard Pa
ker, whose country-seat is near his home, and th
the doctor considered the case one of deep-seate
cervical inflammation. [From Dr. Parker's notes
learn that he first saw the patient in June, 187
The symptoms then complained of were a stiffnes
pain on jarring the head or on walking, althoug
the man slept and ate well and worked at his trad
"Diagnosis: inflammation of the deep fibrous stru
tures connected with the upper cervical vertebr
Recommended counter-irritation, iodine, and blis
ters. I wished to make a *deep issue*, it was decline
In the summer of 1879 I often saw Mr. Purdy at hi
work; he seemed better; he became worse as col
weather came on."]

Recently he has been troubled with spasms in th
neck, associated with the pain already described.
he is lying in bed he is perfectly easy and slee
well. If he is well placed in a chair, with the hea
supported, he is also comfortable. If, however, h
attempts to move, more especially if to rise, he
seized—this symptom varying in severity—with
jerking of the head backward, a kind of backwar
nodding. He is obliged to steady his head with hi
hand. He has devised for his relief a splint of lig
board to support the head behind and at the side
It rudely resembles the head-piece of an operatin
chair, and is more firmly fixed by tying about it an
the neck an ordinary comforter scarf. Quite recentl
since he has supported his head in this manner, h
has observed a tendency of the head to turn to th
left, and the position is as if the right sterno-cleid
mastoid were the acting muscle.

Patient's general condition is good. Appetite an
sleep good. Muscular system well developed. Ha
worked at his trade until within three weeks. E
amination shows a thickening of the tissues in th
back of the neck, which make a mamma-like eleva
tion at that point. The middle of it is quite prom
nent and suggests a kyphus, but on handling it seem
to be made up of the subcutaneous tissue. Th
muscles of the back are tense, so are the stern
cleido-mastoid and omohyoid.

Concussion on head not painful. Percussion o
spinous processes not painful. Rotation to left no
painful; to the right slighty painful after it has bee
carried a little way. No other motion painful, ex
cept when it is caused by the spasms of the muscle
Has had no pain of any sort except that in the occ
put already described.

No heart-murmur; no history of rheumatism.

On the history and examination I thought I coul
exclude caries of the vertebra for which I was search
ing particularly. As I considered the evident symp
toms to be those of the nervous system rather tha
the osseous, I requested the gentleman who ha
brought the patient to me (Mr., since Dr. W. H
Mahler) to consult Dr. Janeway. The latter referre
the case back to me, calling my attention to th
pharynx, which I had strangely forgotten to examine
There is felt in the pharynx a depression which seem
to correspond to the third cervical vertebral body
This depression Dr. Janeway was inclined to attribut
to a loss of substance from a caseous ostitis. In dis
cussing the case with Dr. Janeway, the possibility o
fracture was suggested, but dismissed as incredib
from the history. Personally I could make no diag
nosis, as I still thought the case unlike any case o
Pott's disease I had seen, and yet was unable to ac

count for the depression. But it was agreed that I should apply a plaster jacket with a head-sling, with the hope that it would steady the head, while the doubt as to the nature of the disease was explained to the patient. I invited Dr. Gibney to examine the case, which he did at my office, but he declined to venture a diagnosis.

The plaster of the first jacket proving to be bad, it was removed and another applied (November 10th) two days later. The patient returned home and I did not see him again. From Mr. Mahler and from Dr. Janeway, with whom the patient's physician communicated, I learned that the head-sling did no good, that it had been abandoned, that the patient was trying the support of a chair on the principle of a barber's chair, and that he was growing worse. Mr. Mahler spoke with me about visiting the patient at his home, but I could see no good that I could do by the visit.

The remainder of the history is from notes furnished by Dr. Stimson.

The spasms being violent, and increasing, the patient was obliged to rely upon morphia, only large doses procuring relief. He seized the pillow or sheet between his teeth, to prevent spasm, so constantly that his teeth were loosened and drawn to one side. The patient tried other methods, apparently extravagant, to control the spasms.

On or about the 10th of May, 1880, Dr. Stimson, assisted by Dr. Brownson, of New Canaan, and Dr. F. S. Gould, of New York city, performed an operation, with a view of preventing the twitching of the head.

The patient needed but little ether, since he was continually under the influence of morphia. An incision was made about one-half an inch to the left of the mesial line, and parallel to it, and about four inches long, and carried down to the laminæ. The cutis and areolar tissue were excessively hypertrophied, probably on account of the previous irritation (carbuncles, blisters, and hypodermic injections), and was not far from one and one-fourth inch in thickness. The obliquus inferior, and the rectus capitis posticus major were reached after no little difficulty, and found to be extremely enlarged. Their attachments to the spinous process of the axis were broken up, and three-fourths of an inch of the second cervical nerve (of left side) was removed. During the course of the operation the patient ceased to breathe on account of the combined effects of morphia and ether, and only very vigorous treatment re-established respiration.

The operation did not accomplish the purpose intended, for when the patient came out from the effects of the ether, the twitching recommenced. The next day Dr. Brownson divided the complexus and the splenius, under the impression that this would prevent the twitching. This proved to be futile. Although the operation was extensive, it was attended with little hemorrhage. Three ligatures were applied to small vessels. The patient died three days later from exhaustion.

The autopsy, made forty-eight hours after death, in the presence of Dr. Brownson and Dr. Allan McL. Hamilton, showed areolar hyperplasia, the condition of the vertebræ exhibited in the specimen, which shows the atlas dislocated forward and slightly downward in such a way that the left side of the atlas is slightly lower than the other, and the tubercle is slightly rotated to the right. On the left side the lip of the superior articulating surface is a little lower and more prominent than that of the right side, but not more so than may be a normal difference. The odontoid process has been fractured and is displaced forward and to the right with the atlas. The bodies have not been sawn through, but externally no appearance of caries exists. The depression felt during life in the pharynx was caused by overriding of the atlas; the bottom of the depression corresponding to the body of the axis. No actual depression existed.

Dr. Stimson adds: "My diagnosis, as given to Dr. Brownson, was pachymeningitis from extension of inflammation from without inward to coverings of the cord. I had no idea of fracture of the odontoid process, although I thought some other portion of the bones might have been injured at the time of the last fall, *i.e.*, that from the apple-tree."

Dr. Yale then added the history of one more case, which he did not see, but in which I was interested by Dr. Gibney's account of it during life. Dr. Gibney has been kind enough to place the notes of the case at his disposal, and he, therefore, presented so much of them as bore upon the cervical disease.

Case III.—J. J. B——, aged thirteen years. The patient had been in the Hospital for Ruptured and Crippled since October 21, 1875, and under treatment for infantile paralysis.

January 19, 1880.—For at least a week has had a stiff neck, thought to have come from a cold. Later it was discovered that a week before the appearance of the symptoms he had fallen backward, striking his head against the floor with considerable force. Liniments ineffectual. No infiltration; tenderness along ligamentum nuchæ; blister to nape.

January 21st.—No relief from blister. Ergot, ʒ ss. t.i.d. No appreciable rise in temperature; pulse and respiration normal. Keeps bed simply from difficulty of holding head erect.

January 22d.—Ergot not retained.

January 26th.—Still unrelieved. In fact, there now appears to be a subacute cellulitis, probably involving the cervical fascia. No enlargement of vertebræ to be felt in the fauces, and no prominence to be felt posteriorly, and, indeed, a careful examination fails to detect any vertebral disease.

January 28th.—Belladonna lotion. Ergot again, not borne, followed by a blister.

On February 8th the entry is continued: "No material change. . . . . Can this be a case of pachymeningitis cervicalis hypertrophica, with extension of disease along nerve-sheaths, causing a peri-pachymeningitis, or is it simply a rheumatic form of an inflammation affecting cervical fascia?"

February 9th.—On right side, just back of mastoid process, is a tumor barely perceptible.

February 10th.—Spinal brace and head-spring applied.

February 11th.—Out of bed.

February 15th.—Gets much support from head-spring, but dislikes the body brace very much. Tumor enlarging slowly. Some tenderness.

March 30th.—Incision made an inch deep before pus is reached. Tent and poultice. Temperature, P.M., 103°.

March 31st, A.M.—Attempt made to enlarge opening. A branch of occipital artery (probably priceps cervicus) was divided. ʒ ss. of blood lost. Compress. Brandy. Temperature, P.M., 103°.

April 2d.—Discharge very slight. He suffers so much that he begs to sleep in his rolling-chair, the pain on lying down being excessive.

April 5th.—A probe inserted fully two inches into the sinus touches bare bone. Parts kept open by passing probe three times daily. Complains of great pain in left side of neck, but nothing more than glandular enlargement can be seen there.

April 9th.—Pain so great as to require the constant application of iced cloths. Patient dislikes morphia. Potassium bromide forty grains used instead.

April 11th.—Delirium due apparently to anæmia. Discharge freer. Looks better in every way.

April 17th.—Hot fomentations used in place of poultices. Complains of difficulty in breathing, of soreness of throat, and for a week or two has been unable to take solid food. Takes liquid with a tube. Breathes heavily in his sleep.

April 19th.—Complains this morning of being unable to breathe through his nose. Examination shows a post-pharyngeal abscess. Incision with a bistoury, about ʒ ij. of pus evacuated. Pus thick, and toward the end about ʒ j. of caseous material like bone detritus flows out. Parts washed with carbolic solution. Immediate relief of dyspnœa.

April 22d.—Tumor near mastoid not discharging to-day, and is much smaller. Fomentations left off. By 10 P.M. it had increased in size, was red and painful.

May 2d.—No poultices for two or three days. Discharge not very great, but neck is just as tender as before. Emaciation continues. Still sleeps in rolling-chair in sitting posture.

May 3d.—Brace fits badly, and boy appears to sit uncomfortably. He leans to the right side nearly all the time, and occasionally backward. Boy, much against his will, was accordingly put to bed and all apparatus removed. No excoriations caused by brace. As he is turned to the left side of the bed he screams and the agony is so great that the eyes seem to start from their sockets. The helpless condition of the limbs is very notable, the left lower one hangs perfectly limp, seemingly devoid of all vitality, and the right is very little better. Discharge from the pharynx very slight, though the sac seems a little distended. After a while boy found an easy position, and lay with little suffering all day.

4 P.M.—Nurse reports speech difficult. He lost strength and then rallied.

5 P.M.—Became deathly pale, the respiration suddenly ceased. On reaching his bed found life nearly extinct. He was lying on his back, chin on sternum. After a few pulse-beats and gasps he died. After death, finger in pharynx found sac of abscess empty and glottis clear.

Autopsy, twenty hours after death, Dr. Janeway, superintending. Present: Dr. Poore and house staff. Thorax and abdomen not examined.

Spinal column exposed by sawing through the processes and exposing canal throughout its whole length. The cord carefully removed. No evidence found at any point of meningitis, acute or chronic; no tubercles; in the upper portion of the cervical region anteriorly the dura was a little thickened externally, which Dr. J. explained as an old pachymeningitis externa. Sections of the cord were made in the lumbar enlargement, and all that could be seen, macroscopically, was a cloudiness of the gray horns anteriorly and a diminution of these and, apparently to a slight degree, of the whole lumbar cord. No very marked changes, however, were discovered. The cephalo-rachidian fluid normal in quantity and appearance.

Bodies of the vertebræ were carefully examined from behind, and no evidence of caries found. As the mastoid abscess was enlarged and explored by the finger there could be distinctly felt one or two bits of roughened bone, probably separated by sav and chisel. The condyles of the occiput were fel bare and eroded.

On opening the calvarium the dura was found ver firmly adherent. In removing the brain nothing abnormal was found until the medulla was reached Against its anterior surface, just below the decussation, a bony process was found projecting, whic proved to be the odontoid. After the removal of th brain quite a depression could be recognized in th medulla at the point named. On flexing the hea upon the spine the odontoid could be plainly see to move backward and forward. On inserting th finger through the foramen magnum there could b felt toward the right side a small bit of eroded bone decided to be the insertion of the check ligaments both these and the transverse ligament being to al appearance separated from their attachments by disease of the bones at their insertion, thus allowin the displacement described. The mastoid proces seemed to be normal.

The condition, then, was one of caries of the occipito-atloid articulation and of the body and odontoid process of the axis. Both the pharyngeal an the external occipital abscess were dependent upo the caries.

FRACTURE OF THE EPITROCHLEA (INTERNAL CONDYL OF THE HUMERUS).

Dr. L. A. Stimson narrated a case as follows: boy, eleven years of age, while sitting astride of fence, fell upon the right side and, as he said "caught his arm under him." Within half an hou from the time of the occurrence of the accident he entered the hospital, and it was stated by the attendant that he had dislocation backward of both bones of th forearm. After the dislocation was reduced, it wa noticed that on the inner side a piece of the humeru was loose, and diagnosis of epitrochlean fractur was made. On the next day, when he saw him fo the first time, there was no swelling, no ecchymosis the movements of the forearm upon the arm wer almost perfectly free, and there was no pain. small fragment of bone, however, could be graspe between the thumb and fingers on the inner side o the arm, and it could be moved forward, backward upward, and downward, with slight crepitus, whic was not distinctly bony in character. On the following day the patient was seen by two members o this society, and on the day following that, the elbo in the meantime being kept in a right-angle splint there were some blebs upon the inner side of th arm and elbow, there was considerable swelling, an the limb was quite painful. A lead and opium was was applied, the swelling diminished, and on Monday the boy was seen by another member of thi society. Dr. Stimson thought that there had undoubtedly been fracture of a portion of the bon involving the epitrochlea; and he further said tha Dr. Frank H. Hamilton stated very positively tha he could feel distinctly that a fracture followed th line of the conjugal cartilage of the epicondyle, at leas its upper portion, and therefore had no questio that it was a pure fracture of the epicondyle. Dr Stimson was not able to make out those points i diagnosis, and limited his statement to fracture of small portion of bone, perhaps one-third of an inc in diameter, upon the inner side of the condyle o the humerus. The piece was distinctly movable and the injury did not seem to involve the joint a all. In other words, he regarded it as an extra articular fracture, occupying the seat of the epitrochlea.

Dr. Markoe remarked that he examined the patient's elbow with a great deal of care, but it was when the parts were considerably swollen and tender, and he did not feel that he was entitled to speak positively with reference to a diagnosis. He, however, noticed that the lateral motion between the forearm and arm was greater than it should be if the internal condyle was entirely intact. The arm being held firmly, he made motion backward and forward, and he thought that he could move the internal condyle. Although not entitled to speak positively, he inclined to the opinion that the fracture involved the joint.

The President stated that he had an opportunity to examine the boy's elbow before there was very much swelling, and had no doubt whatever as to the existence of fracture of a very small, button-shaped piece of bone which was altogether outside and internal to the articulation. The piece was distinctly movable, and crepitus was distinct, but not bony. He did not make lateral movements of the joint, but such movements as he did make seemed to show that the articulation was unaffected. He thought that there could be no clearer evidence, clinically, of such a fracture than was offered in the present case. He was unable to conceive that it could be anything else than a fracture of the epicondyle.

Dr. L. A. Stimson remarked that in looking over the recorded cases he had been struck by the fact that in several of them there was simultaneous dislocation at the elbow-joint. In the case just reported, the house surgeon stated that he reduced the apparent dislocation by simply drawing upon the forearm, and that it was accompanied by no sound or jar similar to that which is usually found on reducing a dislocation. [A recent examination of the case gives reason to believe that there was partial separation of the epiphysis with angular displacement backward.] In all the recorded cases the injury was produced by a fall upon the palm of the hand.

Taking into account the difficulty of explaining how fracture of the internal epicondyle could be produced by that force, especially in children whose muscles are weak, it had seemed to him that a possible explanation might be found in the fact that the fracture might not be confined to the internal epicondyle, but might involve also a portion of the epiphysis corresponding to the ulna, and that when the epiphysis was torn off by the fall upon the hand, the muscular force might be sufficient to break off the internal epicondyle, which was attached only by a limited surface. That would also explain the prolongation of convalescence, and the stiffness and temporary general anchylosis which had resulted in one or two cases.

EMPYEMA TREATED WITH THROUGH-DRAINAGE.

Dr. T. M. Markoe narrated a case as follows: he was called in consultation to see a patient who had a history of having had, during five months preceding, three distinct attacks of pleurisy, from each of which he had partially recovered, but each had left him in a feeble state of health, with considerable soreness on the side, and evidently his pleuritic trouble not entirely eradicated. Gradually the lower part of the left side of the thorax became enlarged, and the symptoms seemed to point to accumulation of pus in that region. His constitutional symptoms were marked: high temperature, sweating, etc. An exploring-needle was introduced to a depth of three inches, but no pus was found, and no satisfactory relief was given. After the lapse of two or three weeks, during which time the patient's general condition deteriorated considerably, another exploration was made with an aspirating-needle, which was introduced in nearly the same place as was the first needle, namely, between the ninth and the tenth ribs, well back, and in the central portion of the general fulness, and this time pus was encountered and several ounces were withdrawn. The matter ceased to flow, and it was supposed that the abscess had been evacuated. The general condition of the patient, however, continued to deteriorate, and the encroachment of the tumefaction upon the abdominal cavity became more and more marked, and then Dr. Markoe saw him for the first time. He found a swelling extending well forward, tender, and, in the dorsal region, just at the outer edge of the quadratus lumborum; there was marked fluctuation. There was also a fluctuating spot in the anterior aspect of the chest at the level of the junction of the fifth or sixth ribs with the sternum, and he satisfied himself that the wave of fluctuation could be transmitted from before backward so that it could be felt in the loins. Dr. Markoe made an opening into the tumor in the lumbar region and let out two quarts of extremely fetid pus, and as it flowed away the prominence on the anterior aspect of the chest became more and more flaccid, and finally disappeared. He then introduced a long, leaden probe, pushed it carefully forward, doing as little violence as possible, and finally succeeded in causing the end of it to make an impression on the flaccid wall, when fluctuation was felt anteriorly. An opening was then made and a drainage-tube introduced, and the case was subsequently treated upon the plan of *through-drainage*—the plan of treatment originally suggested for this precise condition by Chassaignac. The cavity was first syringed with warm water, then slightly carbolized water from one to two per cent., never above two and a half per cent., and at no time using it very freely.

The effect of the operation was somewhat depressing, but within a few hours he rallied, his temperature soon fell from 103° to 100 F., and from that time on it had not again risen. There was no inflammatory reaction. The injections were continued. An abscess had since formed in the lumbar region, but it was evidently extra-thoracic, and after a time ceased to discharge. At present the general condition of the boy was greatly improved. He had spent some weeks in the country. Only a few drops of pus are now discharged, and only a few drops of fluid can be thrown into the cavities, and he seems in a fair way to recover. He heard from him last about the end of September, three months after through-drainage was established.

[At the next meeting of the Society Dr. Markoe added that he had examined Chassaignac's description of the method, which was very explicit, and consists in introducing the trocar between the sixth and seventh ribs, then turning it forward and bringing it out again at the distance of two fingers, and leaving the drainage-tube hanging from these openings. He thought that operation was very different from the procedure which he adopted where the drainage-tube traversed the entire pleural cavity, from one opening to the other.]

Dr. L. A. Stimson mentioned a case in which an abscess occupied a similar region, was very large, discharging more than a quart, and its contents were very fetid. He treated it by making a single opening in the loin, and without antiseptic injections. The cure was rapid and satisfactory. He refrained from injecting the cavity of the abscess in that case because of the termination of a case that had come to his knowledge, in which an abscess in the iliac fossa was evacuated, and then injected with a carbolic solution, and the patient died within two hours, with symptoms indicating carbolic acid poisoning.

Dr. Markoe thought that an essential feature of this plan of treatment was to secure not only free evacuation of the pus, but also of the fluid used in the injection. He would not be willing to inject a large empyemic cavity with carbolic acid solution, for fear of accident.

Dr. Yale referred to a case in which a simple large abscess of the thigh was hyperdistended with carbolized water, and the operation was followed by collapse, nearly complete suppression of urine and other alarming symptoms, and the patient's life was saved only by the most active exertions.

Dr. G. A. Peters alluded to a case in which he proposed to hyperdistend an abscess of the thigh with carbolized water, but the opinion given by several gentlemen was so decidedly against it that he abandoned the method.

Dr. Erskine Mason spoke of a case which occurred in Prof. Post's clinic, where an abscess was distended with carbolized water, and the operation was followed quickly by alarming symptoms, but the boy finally recovered.

With reference to injecting the pleural cavity, some years ago he made a free opening into a patient's chest in Roosevelt Hospital, and removed fifty-six ounces of fetid pus. The cavity was then washed out with a weak solution of salicylic acid, and at once the discharge was deodorized. He had done the same thing repeatedly since, using a solution of salicylic acid, 1 to 100, without bad effects. The man upon whom he used it first remained in the hospital for some time, but finally recovered. His chest was irrigated daily.

PROBABLE TWISTING OF INTESTINE.

Dr. L. M. Yale narrated a case which he saw in consultation with Dr. J. W. Pinkham, of Mt. Clair, N. J. It had the following history: A man, aged twenty-three years, had diarrhœa on a Tuesday and Wednesday, and on Wednesday night he summoned a physician who, from the severity of the pain, diagnosticated probable intestinal obstruction. On the day following the patient's symptoms were so much improved that he doubted the value of the diagnosis, but on Friday the symptoms returned with increased severity, yet did not seem urgent enough to warrant interference. The symptoms were constipation, vomiting of coffee-colored fetid material in excess of the quantity of liquids ingested, and frequent going to stool, particularly after enemas which were not followed by fecal evacuations, but by discharge more or less of blood. No tumor was recognized in the abdomen, none in the rectum. The next day the general condition of the patient seemed better, but on the day following that all the serious symptoms were again present. A more complete exploration was then made, and Dr. Berry introduced his hand into the rectum as high as the sigmoid flexure, and no tumor was recognized. On coming out from under the influence of the anæsthetic, the patient had a violent attack of pain, but it was spontaneously relieved. No further pain ensued. The patient's bowels began to move freely, and he made a rapid recovery. The symptoms were persistent constipation, vomiting o fetid, coffee-colored material, bloody discharges, pai localized, in a general way, in the lower part of the abdomen, but not always precisely in the same spot and the points at which tympanitic percussion or dulness existed were not always the same. The explanation which Dr. Yale gave of the symptoms was that there had been a twist of the intestine withou intussusception, and that the manipulation during the exploration had replaced it and caused a cure.

The President thought it quite probable that i was a case of twisting rather than intussusception He also mentioned a case on record, of reduction o intussusception by the introduction of the hand into the rectum.

MODE OF EXTIRPATING THE MAMMARY GLAND.

Dr. Lange presented a breast with its attachments, that illustrates a particular method of amputation. The essential point was extirpation of the breast, together with the fatty and glandular contents of the axilla, *in one piece*, including all the connective tissue between the borders of the pectoralis and the latissimus dorsi muscles, in order to include all the lymphatics which are in a state of carcinomatous degeneration.

Dr. R. F. Weir remarked that in a number of instances he had noticed a chain of lymphatics running across the pectoral muscle, forward from the axilla and reaching nearly to the sterno-clavicular articulation.

Dr. Peters said that he had noticed the same condition mentioned by Dr. Weir.

The Society then adjourned.

Correspondence.

THE TOXIC ACTION OF ERGOT.

To the Editor of The Medical Record.

Sir—In the Medical Record for October 23d, page 473, Dr. S. D. Radcliffe, of Washington, D. C., refers to a communication of mine that gave to your readers the details of a case whose symptoms I attributed to the toxic action of ergot. I will not take up your valuable space with a recital of the points that formed my diagnosis. Suffice it to say that I still believe the case to have been one of ergotism, the symptoms not merely due to loss of blood. Ergot is given by many in large doses—I believe even much larger ones than spoken of by Dr. Radcliffe, without bad effects (especially in uterine tumors, etc.); at the same time I do not see why we cannot occasionally meet with a case where intolerance to its action may exist to the same degree we often find present in connection with the use of other powerful drugs, as opium, cinchona, etc. I presume my case was one of these. Small, though often-repeated doses, given to a case where absorption is probably unusually rapid from bleeding, or the system susceptible either from prostration or inherent qualities, may, at times, be followed by alarming results, and as my case was one of these, I reported it as a warning.

In a series of experiments upon animals with the various preparations of ergotine,* the toxic symptoms were analogous to those witnessed in my patient. That ergot is a powerful and dangerous drug, no one, I think, will deny, and I earnestly hope that my few remarks will bring out the expression of the opinion of many who use ergot in large doses.

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* Alumni prize thesis, University of Pennsylvania, 1873: "Physiological Action of Ergot."

Very respectfully yours,
JOHN M. KEATING, M.D.

PHILADELPHIA, October 29, 1880.

MEDICAL LAW IN WYOMING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—Allow me to correct an error in your editorial, "Medicine in the United States as Others see it," of the 16th inst. After quoting Dr. Hardwick as to the states having no medical laws whatever, you say, "In addition to these [names of states] must be included the District of Columbia and all the territories." The error consists in including Wyoming Territory, for we have a most excellent statute law, entitled, "An act to prevent the practice of medicine, surgery, or obstetrics by unqualified persons." As the law is too long for your columns, I will give the principal features.

Only graduates of chartered medical schools are allowed to practise, and, as proof, every physician is required to file a copy of his or her diploma, for record, with the registrar of deeds of the county in which he or she proposes to practise, exhibiting the original, and making an affidavit that he or she is the identical person named in said diploma. The penalty for a violation is a fine of from fifty to five hundred dollars, and imprisonment from thirty days to six months in the county jail. It is further made the duty of the police, sheriff, or constable to arrest all persons violating this act.

From the fact that there is not a single unqualified practitioner of medicine in the territory at present, we believe the law is all that can be desired.

Yours respectfully,
J. H. FINFROCK, M.D.

LARAMIE CITY, WYO., October 27, 1880.

SOME OF THE MEDICAL HISTORY OF GREAT BRITAIN.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR—*In re* your editorial of October 16th on "Medicine in the United States as Others see it," Dr. Hardwicke might have learned a useful lesson had he studied the medical history of Great Britain from 1806 to 1826. During this time the trade of granting degrees in physic by the Scottish universities was carried to such an extent that a royal commission was appointed to inquire into the general state of the Scottish universities. This commission "was astonished at the small increase of students compared with the large increase of graduates" during this time. The report of this commission goes on to state: "It does appear quite unreasonable that when there are belonging to the university a number of professors, who must be supposed equally skilled in medical science, there should be a monopoly of examinations to a particular part of them, apparently for no other purpose than that the persons so favored may receive the addition to their emoluments arising from the fees paid to the examiners." The universities of Edinburgh, St. Andrew's, and Aberdeen were alike guilty, and in this course the University of Edinburgh was upheld by the College of Surgeons of Edinburgh. St. Andrew's, however, in the end prevailed in "destroying this most odious monopoly that ever disgraced British legislation." So will it be here in time. The time is coming when the state, or better still, the American Medical Society, will have a voice in saying who shall and who shall not receive the honorable title of "Doctor in Medicine."

Those wishing to pursue this matter further might consult the report of His Majesty's commission on the state of the Scottish universities from 1806 to 1826, or the preface to "McIntosh's Practice of Physic" (2d Am. ed., 1837).

Respectfully yours,
M. A. MCCLELLAND, M.D.

KNOXVILLE, ILL.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from October 31 to November 6, 1880.

MEACHAM, F., Capt. and Asst. Surgeon. Granted leave of absence for one month. S. O. 234, A. G. O., October 30, 1880.

PATZKI, J. H., Capt. and Asst. Surgeon. Assigned to duty at Jackson Barracks, La. S. O. 126, Department of the South, October 29, 1880.

HEIZMANN, CHAS. L., Capt. and Asst. Surgeon. The extension of his leave of absence of September 28, 1880, from Headquarters, Division of the Pacific and Department of California, is further extended two months. S. O. 234, C. S., A. G. O.

LAUDERDALE, J. V., Capt. and Asst. Surgeon. Relieved from duty as Post Surgeon at Newport Barracks, Ky., and assigned to duty at McPherson Barracks, Ga. S. O. 127, Department of the South, November 1, 1880.

Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending November 6, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Oct. 30, 1880.	0	19	66	5	5	98	3	0
Nov. 6, 1880.	0	18	100	2	13	83	1	0

LEECHES.—From five to six million leeches, costing a million and a half of francs, were raised in France during the eight years ending in 1836. One hundred and eighty-seven thousand pounds of blood were drawn annually during this same period.

TRICHINÆ IN RELATION TO THE PUBLIC HEALTH. By F. S. BILLINGS, M.V.—We have already commended this advisable monograph in a review of the Annual Report of the Massachusetts State Board of Health. With the inference from Dr. Billings' statistics that there are nearly 4,000,000 trichinous hogs in this country, the importance of scientific study, as well as of public supervision of the matter, must appear very great.

CONSTITUTIONAL DISEASES AND EYE TROUBLES.—Dr. D. B. St. John Roosa writes: "Dr. George S. Stevens, in the last number of the RECORD, states 'that the advice which Dr. Roosa represents me as having given was never rendered by me in this case.' From a note received from the doctor I learn that the case referred to is the one of Miss P., quoted in full in my lecture on the Cure of Constitutional Diseases by the Use of Glasses. In answer to this I have to state that the father of the patient, a physician, writes me as follows, in a note dated October 14th: 'I informed you that she had been under Dr. Stevens' care for some time; that she had been in Albany for several weeks, and that the doctor had exercised the muscles of the eye; that she had improved somewhat, but that her headaches had continued about the same as before the treatment commenced. Then Dr. Stevens proposed the same operation that he had performed on her cousin. I understood this to be partial tenotomy of internal rectus of one eye.'

"An oculist of this city, who knows the case and has talked with Dr. Stevens about it, tells me that Dr. Stevens said to him that he had recommended an operation on one of the recti muscles in this case. I think I have now cleared myself of the charge of basing my criticism upon 'supposed advice' of which I am 'only informed by rumor.'"

A NEW DEPARTURE IN TEACHING THERAPEUTICS has been introduced by Dr. Bartholow, at Jefferson Medical College. A laboratory has been fitted up, and the students are taught practically how to manipulate drugs and how to pursue experimental therapeutics.

STATISTICS RELATING TO MEDICAL EDUCATION OF WOMEN IN RUSSIA.—From the article of Dr. Hertzenstein in *Vratch*, 1880, No. 34 and 35, we learn that the St. Petersburg school of medicine was opened to women in 1872. During eight years 796 students matriculated. Under 22 years old were 72 per cent.; between 22 and 30, 24 per cent; above 30, 3 per cent. According to social condition they are classified: single, 89.4 per cent.; married, 9 per cent.; widows, 1.6 per cent.

As the course of studies is five years, only the first three classes had graduates; their number is 111, corresponding to 266 matriculates. During 1879 453 students pursued the study of medicine, and as 111 graduated and 30 died, 202, or 25 per cent., abandoned their studies. This large percentage is due to the fact that the majority of students are obliged, while studying, to earn their living by giving lessons, literary work, etc., a condition not favorable for a steady study of five years.

THE LIBRARY OF THE PHYSICIANS TO THE GERMAN HOSPITAL AND DISPENSARY OF THE CITY OF NEW YORK, which is located at the Dispensary Building, No. 65 St. Mark's Place (East 8th St., bet. 1st and 2d Aves.), contains nearly 8,000 volumes of German, English, and French periodicals, the series of which are constantly being completed. Having been put in perfect order, and a printed catalogue having been published last spring by the present librarian, Dr. Hermann G. Klotz, the library is now open to the medical profession. Those wishing to avail themselves of its advantages may apply to any member of the medical staff of the hospital or dispensary, except the librarian, for letters of introduction, upon which the librarian will issue, free of charge, tickets of admission, good for one year from date, which entitle the holder to visit the reading-room as well as to borrow books. The reading-room, where all the new journals, as soon as practicable after arrival, will be on file for at least one week before going into circulation, is open from 2 to 5 o'clock, Sundays and holidays excepted. Those wishing to borrow books must apply either personally or in writing to the librarian on Mondays, Wednesdays, and Fridays, from 4 to 5 o'clock (except in July and August), and sign their name and residence to blanks furnished for this purpose, a single blank to be used for each volume. Books ordered by letter may be obtained from the janitor of the dispensary after 5 o'clock, on delivery of receipts. Time allowed for keeping books not over two months. Catalogues at twenty-five cents are sold by the janitor.

CASES SHOWING THE IDIOPATHIC ORIGIN OF DEEP ABSCESSES.—We have received an interesting letter from Dr. J. P. Creveling, of Auburn, N. Y., in which three cases of deep abscess are related, the cause in each instance being non-traumatic. Dr. Creveling refers to the statement made by Dr. L. A. Sayre, at the last meeting of the State Medical Society, to the effect that it is doubtful whether deep abscesses ever occur with local injury. As evidence against this opinion the present cases are reported. The first patient, a young man of eighteen, had a scrofulous history. He had been suffering from general debility for several months. At length, swelling and pain appeared in the abdominal wall, an abscess developed and burst near the umbilicus. It burrowed down toward the left side of the pubes. It was between the abdominal muscles and the peritoneum. Three incisions and drainage were employed, and in about two months after being put under treatment, and five months after the first symptoms appeared, the patient was well.

The second case was that of a woman, aged fifty-five, who had suffered from a lumbar abscess. When brought to the hospital she was nearly moribund, and she soon died. The abscess had existed for about six months, and was attributed to a "cold." There was no history of traumatism.

The third case was that of a young woman, aged twenty-two, who gave a malarial and scrofulous history. She was first seen last April, when she was found to be suffering from debility and chronic diarrhœa. She also complained of soreness round the left side of the pelvis. She was seen again four months later, and was then found to be suffering with a large abscess in the left inguinal region, and another smaller one near the last lumbar vertebra. There had been no injury received. Under proper surgical treatment she recovered.

Dr. Creveling believes that these cases show very positively that deep abscesses can occur without traumatism.

A TÆNIA "IN SITU."—M. Laboulbène, in making the autopsy on a man who had died suddenly from the rupture of the pulmonary artery, was afforded the opportunity of studying a tænia "in situ." Nothing was found in the stomach or the duodenum of the subject. When the jejunum was reached, he found a tænia folded upon itself, and occupying a space of forty-eight centimetres (about a foot and a half). The head was directed superiorly. The worm was still living, thirty-three hours after the death of the patient. Several living cucurbita were seen. The tape-worm measured 412 centimetres in length. —Cor. of *Monthly Review*.

Original Lectures.

ON THE
PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.*

By ROBERTS BARTHOLOW, M.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

(Special Report for The Medical Record.)

Lecture I.

GENERAL INTRODUCTION—THE PHYSIOLOGICAL ANTAGONISM BETWEEN OPIUM AND BELLADONNA.

Mr. President and Gentlemen—In this country private beneficence, although vast in its generous outlays, is seldom devoted to purely medical objects. It, therefore, behooves us to honor the memory of the founder of the Cartwright lectureship. In this gift, so rare and admirable in its provisions, the medical profession is offered an opportunity for honorable distinction; while it is replete with benefits not less to the founder than to the profession. By this means his benefactions are especially celebrated annually, and he is enrolled for all future time among the philanthropists who really benefit their fellow-men.

I cannot be insensible to the very high honor of having been selected to deliver the first course of these lectures; but I do not conceal from myself the difficulties and obligations of the position. In the Gulstonian, Lumlian, and other lecture courses which have done such good work in England, it is customary to expect that new facts, new truths, and new discoveries will be set forth; and brought into comparison with such admirable efforts, I can but feel how humble are the attempts to which I am to ask your attention. After careful consideration, however, I have selected a topic which has a strong interest at the present day, and to which I have been able of late to add some few new facts.

My subject is, the Physiological Antagonism between Medicines, and between Remedies and Diseases; and this antagonism or opposition of action may exist throughout the whole range of the relations of such agents, or it may be limited to a few points only. There are, however, few, if any, in which the antagonism is universal. The popular view of the doctrine of antagonisms in the profession is an opposition of action of poisonous medicinal agents, by which the effects produced by one are counteracted and rendered void by those of the other. A dose of one may thus be completely antagonized by a dose of the other. This conception of physiological antagonism is exaggerated; for such a perfect antagonism is as rare as exact similitude. It has been proposed by some to substitute the word antidotism for antagonism; but this implies a chemical, rather than a physiological action. Physiological antagonism means simply a balance of opposing agents.

Some such conception as our modern doctrine of physiological antagonism has existed from the remotest times, as is evident from some of the aphorisms of Hippocrates. Thus, he speaks of repletion being counteracted by depletion, and says that diseases are cured by their contraries. In another aphorism he says that some diseases are cured by contraries, and some by similar remedies. On this was founded the well-known criticism of Carus in his controversy with Hahnemann: "Whatever is new in homœopathy is not true, and whatever is true in it is not new." The doctrine of contraries was held by Theophrastus, and many others who succeeded Hippocrates; but it was opposed by some of the most distinguished of the Alexandrian school. Galen, however, was essentially a trimmer, and he "claimed to create a science of medicine in which every practical precept was deduced from some pre-established principle." But the only rational expedient in medicine applicable at that time was the doctrine of contraries, which controlled the practice of the whole profession until the sixteenth century. Fernel, the teacher of Vesalius, wrote an elaborate treatise in which he contended that every disease must be controlled by contraries. Some claimed, he stated, that certain diseases were cured by similars; but this *modus operandi* was only apparent, and not real, since remedies, which appeared to act in this way, in fact destroyed the disease by removing its cause.

This ingenious attempt of Fernel, however, could not prevent the final overthrow of the doctrine of contraries, and when Paracelsus burned the works of Galen and Avicenna, it vanished away in their smoke. After the discovery of the circulation of the blood many new theories were advanced, and the systems of Stahl, Brown, Rasori, and others necessarily attracted the attention of the profession. Then arose that eccentric and mystical enthusiast, Hahnemann, imbued with the fanciful ideas of Mesmer. Before the period of his senility, which was especially characterized by his spiritualistic tendencies, the law of similars propounded by him was merely a statement of the views of Hippocrates, to which allusion has already been made. Both the law of contraries and the law of similars were stated by Hippocrates, as we have seen. Hahnemann claimed that the disturbance in the functions caused by a drug must interfere with the course of a disease; there thus being two forces acting on the same tissues or organs.

The great epoch of modern physiological investigation was inaugurated by Bichat, and his discoveries were of vast importance. When he came on the stage, therapeutics were in a truly chaotic condition; there being no settled principles whatever which constituted reliable guides for practice. Some, he said, considered materia medica, of all sciences, that which showed to the fullest extent the contradictions of the human mind; but, for his part, he did not think it a science at all. "It is said," he continued, "that the practice of medicine is repulsive. I go farther. I hold that it is impracticable in the present state of our therapeutics." When Bichat, the founder of modern physiology, died, in 1802, Magendie was passing through his course of studies. Thoroughly imbued with the teachings of Bichat, he pursued investigations of similar character with great enthusiasm and success, and was the first to engage in a scientific physiological and therapeutical research. The subject of this was upon poisoning, and such an experimental investigation was only possible after the functions of the spinal nerves had been determined. He next pursued a brilliant series of experiments in regard to the new alkaloid, strychnia, and the result of this was the discovery of the first physiological antagonism, that between strychnia and paralysis. Many have supposed that the first use of this agent in the treatment of paralysis was entirely empirical; but this was not the case. It was prescribed with a definite and scientific view after Magendie had pointed out its exact physiological action, and the result proved how correct were the deductions concerning its therapeutic value which he based upon this.

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* Cartwright lectures of the Alumni Association of the College of Physicians and Surgeons, New York. Course of 1880. Delivered Tuesday evening, November 9, 1880.

Having now advanced thus far, let us take up some special instances of physiological antagonism. As early as 1570 Pena and De Lobel published an account of the counteraction of the effect of belladonna berries by means of theriaca, a preparation of opium. Afterward theriaca was reported as a powerful antidote for poisons of all sorts; but later experience proved that it was for belladonna. By the beginning of the nineteenth century sufficient facts had accumulated to demonstrate the indisputable antagonism between belladonna and opium, and since then the evidence has been still more abundant and conclusive. In the year 1810 Joseph Lipp, and in 1855 Dr. Thomas Anderson, showed how the toxic effects of belladonna were overcome by the use of opium; the dilatation of the pupils which had been produced by the former at once disappearing. In July, 1859, Benjamin Bell, of Edinburgh, published a case of poisoning by atropia successfully treated with opium. In January, 1862, Dr. C. C. Lee published in Philadelphia the report of two cases, illustrating the antagonistic effects of the two drugs. The first was one of opium-poisoning, and the second one of belladonna-poisoning. In his paper Dr. Lee gave a *résumé* of the literature of the subject, and also entered with some detail into the history of the adverse experience of Brown-Sequard. Then Dr. William F. Norris, of Philadelphia, gave a complete tabulated sketch of every case, which he could possibly collect, that illustrated the antagonism between the drugs. In 1865 an admirable paper on the subject was published by Mitchell and Moorhouse, of Philadelphia, and since then the cases and papers had greatly multiplied.

The history of this subject is not complete, however, without some reference to the opinions and experiments of those opposing the view of such an antagonism. These authorities, it is well to know, have based their conclusions principally on experiments made upon animals. The most noted of them is Brown-Sequard, and he experimented upon guinea-pigs. Bois used cats for the purpose. Thus, to a cat he gave a dose of morphia almost but not quite sufficient to destroy life, and when the animal had entirely recovered from the effects of this he gave it a dose of atropia just short of producing death. Then when a sufficient time had elapsed to ensure complete recovery from that, he gave the cat the same doses of morphia and atropia together, and they proved fatal. Onsum, on the other hand, made his experiments on frogs; but whatever are the animals employed, or whatever the methods resorted to, the results were uniformly unfavorable to the existence of an antagonism between the two drugs. None of these experiments, however, were free from certain sources of error. Harley collected the largest number of facts, but his fundamental error was that he was willing to accept only those cases in which the antagonism extended throughout the whole range of effects.

Although the antagonism between opium and belladonna was the first to be discovered, these drugs do not by any means afford the only example of such physiological antagonism. There are, in fact, more perfect antagonisms than this, and such an instance is that between strychnia and disease. Magendie's experiments upon animals with this agent enabled him to suggest what its therapeutic effects would be, and Fouquier applied the suggestions successfully in practical medicine. Magendie said in advance that medicine would derive great benefit from an agent that was capable of producing certain special effects upon the spinal cord, and his opinion was afterward abundantly confirmed by the results of clinical experience. Could any fact more strikingly exhibit the benefit to be derived from physiological experiment?

Later followed the remarkable investigations of Claude Bernard, and the discovery of the physiological effects of woorara. This agent is essentially a paralyzer, and hence it is recommended in cases where spasm is to be overcome. Especially is it indicated in tetanus and hydrophobia, and experience with it thus far seems to show that it is the single remedy which has appeared to have a curative effect in the latter disease. Such discoveries ought certainly to have enough weight to silence forever the silly cavils of anti-vivisectionists.

Next we have the discovery of the antagonism between atropia and physostigma. In 1867 a single experiment was made by Bourneville in proof of this. He first gave a dose of calabar bean to a guinea-pig, and then followed it with a sufficient dose of atropia to counteract its effects. During that year I was engaged in making experiments in the same direction with a view to offering their results to the profession, in a paper to be presented in competition for the prize of the American Medical Association. This paper was published in 1869, and in it I distinctly asserted the existence of the antagonism. In the following year the remarkable paper of Thomas R. Frazer, of Edinburgh, appeared on the subject. In the meanwhile, Professor Preyer had published, in 1868, the first part of an elaborate treatise on prussic acid. In the second part, which appeared the following year, he contended that hydrocyanic acid and atropia were physiologically opposed to each other. That this was the case, however, was denied by a number of German authorities, and also by Hare and Keen, of Philadelphia, as well as by myself. In a second paper, more recently published, Professor Preyer pays his respects to us all, and proves to his own satisfaction, at least, that we are mistaken.

In 1869 Oscar Liebreich gave us chloral, and demonstrated its antagonism against strychnia. Noted results, in proof of this, were also obtained by the committee appointed by the British Medical Association, with J. Hughes Bennett at its head. The next year Dr. Fothergill, under the auspices of the British Medical Association, showed the antagonism between aconite and digitalis, and in 1877 Husemann's paper on the antagonism of chloral appeared. To such importance, then, has this subject attained, that no study of a medicinal agent is complete until its antagonisms have been determined. As we have seen, the doctrine of contraries was, for a very long period, the leading principle in the field of therapeutics, and it is evident that, even when this prevailed, many instances of antagonism must have been discovered by clinical experience.

(The lecturer then went on to show that the doctrine of physiological antagonisms found its counterpart in the mechanism of the functions of the brain and nervous system. Thus, in the brain, there were centres for the inhibition of reflex action, and reflex action was interfered with when coincident opposing impressions arrived from different points. In this way singultus might be checked by the application of a strong faradic current. In the medulla oblongata there was a centre of extreme sensibility, and above it a spasm centre; and if there were not this check upon the latter the most violent effects would be produced. Hence, the abnormal readiness to react when the influence of the cerebrum was withdrawn. In the same way the vascular tonus in the heart was maintained at the normal by the action of antagonistic influences.) The manner in which the cardiac action is affected by opposing influences, he continued, is admirably shown by the effect of cold and heat. If we place the heart of a turtle or a frog, freshly taken from the body of the animal, upon a metallic surface, and apply cold to the latter, we shall find that the organ gradually ceases to contract and dilate; but if we then apply heat in the same way, the heart-beats will at once be resumed. Again, if we drop upon the freshly-exposed heart of a frog a small quantity of serum, containing muscarin, the organ at once ceases to act, and apparent death is produced; but if we then drop upon the heart a little serum, containing two-tenths per cent. of atropia, it will begin to act again.

The reciprocity of action is a safeguard, and thus danger to the circulation is prevented by a quickening of the pulsations of the heart. A similar mechanism is found in the function of respiration, where the movements of inspiration and expiration are antagonistic, as well as in the control of the sphincters and other physiological phenomena.

We find also that the same principle obtains in the world of physics. I need hardly remind such an audience as this, that if two waves of light, of equal altitude, arriving from opposite directions, meet at half the distance of their respective elevations and depressions, so that the crest of one corresponds to the hollow of the other, both are obliterated, and the result is darkness; nor that if two equal waves of sound meet under similar circumstances, the result s silence. In the same way, when two bodies of equal weight and momentum come together, both are arrested at the point of impact. So, in electrici-y, when the positive and negative elements are equal, an exact equilibrium is maintained; and in chemis-ry, too, the great principle is the same. But why multiply examples, when nothing can possibly be more evident than that antagonisms exist everywhere?

I will now ask your attention more particularly to he physiological antagonism between opium and belladonna, and in what follows I shall use the terms opium and morphia and belladonna and atropia synonymously. In the investigation of any such supposed antagonism two inquiries present themselves: *first*, Does the antagonism exist? and *second*, What s its nature? Dr. Norris, of Philadelphia, in the paper before alluded to, presented to the profession he first complete tabulated statement of all the in-tances of the antagonistic action between the two drugs that had been recorded in clinical medicine up o the date of its publication. I have now added to his list all the cases that have appeared since that ime, as well as two others, occurring previously, which seem to have escaped the attention of Dr. Norris. One of these was published in 1854, by Lindsay, and the other, in 1855, by Dr. Sibson. The total number now on record is 120. Of these nly fifteen cases proved fatal, which is a percentage f 12.5 failures, a result which certainly indicates omething more than a *post hoc.* The antagonistic agents which were employed must undoubtedly have averted death; but at the same time it is also necessary to estimate the part that may have been played by other agents, such as emetics, the stomach-pump, coffee, flagellation, etc.

The history of the fatal cases is very instructive; for why should the antagonism fail? A number of elements must be taken into consideration in answering this question, and these can perhaps best be brought out by taking a rapid glance at the fifteen cases mentioned.

Case I.—This was reported by Ludwig Pollak in the *Wiener Presse.* The patient was sixty years of age, and four years before had had an apoplectic seizure. He took $\frac{36}{100}$ of a gramme, or about five grains, of atropia, with suicidal intent. The report states that a syringeful of morphia solution (strength not stated) was injected hypodermically, and that no apparent effect being produced by this, another dose, of half the quantity, was employed in the same way.

Commentary.—The condition of the brain in this case was undoubtedly very unfavorable for a recovery; but especially is the failure to be attributed to the inefficient method in which the morphia was administered. If we assume that the solution was of the usual strength and the syringe of the usual size, the amount could not have exceeded three grains altogether. The proper method to have pursued here would have been to inject one-quarter or one-half a grain of morphia every twenty minutes, until some pronounced effect had been produced upon the respiration and the pupils. The patient having had a cerebral lesion, however, there would of course have been less chance of a favorable result than if this had not been the case.

Case II.—Reported by James Seaton in the *Medical Times and Gazette*, in 1859. This was one of ten cases of poisoning by belladonna berries, the patient being a child. Eight minims of tincture of opium were given every half-hour at first, and afterward the dose was increased to twelve minims. Death ensued at the expiration of twenty-nine hours from the time the poison was taken. Altogether seventy-two minims of laudanum were taken—which is about equal to three grains of crude opium—and this quantity was entirely too little to counteract the effect of a lethal dose of belladonna. The post-mortem showed, however, that the heart was flabby and that there was pleural effusion and adhesions.

Case III.—Reported by Samuel W. Gross in *The American Journal of the Medical Sciences* for October, 1869. The patient was a lady, forty-three years of age, and she took four pills containing three grains of atropia, which were sent her through the mistake of a druggist. Among the other symptoms there was complete muscular relaxation, with the exception that there was trismus of the lower jaw. At first an enema and quantities of emetics were given, and then half a grain of morphia was administered hypodermically, after which the respirations became twenty to the minute. The effect being temporary, however, the dose was repeated, when the respirations again became twenty. The faradic current was also employed, and respiration was kept up artificially. Later, a third half-grain of morphia was given, but the respirations now becoming fourteen to the minute, and stertorous in character, it was decided not to give any more opium. Artificial respiration was continued, and the use of the faradic current and flagellation after a time seemed to restore the patient to partial consciousness. Subsequently she appeared to sink into a natural sleep, the respirations then being eighteen. Just as the medical men were about to leave her, however, the toxic symptoms returned. Veratrum ointment was now rubbed vigorously into the skin along the spine, and artificial respiration being resumed, she seemed to improve again. About this time some of the urine was injected into a cat, when it was found that the animal's pupils became dilated. No more morphia was given, and the patient finally expired. At the autopsy it was found that the superficial veins were congested and that the veins of the brain were also very full, while there was general softening of the cerebral tissue. The tissue of the heart was also soft and easily torn ; so that this case can hardly be regarded as a failure for the doctrine of antagonisms. In view of the considerable quantity of atropia taken, moreover, scarcely less than six grains of morphia were needed to counteract its effect. After the first dose of one-half grain, the trismus of the jaw ceased and the respiration became twenty. A little later no inconsiderable portion of the belladonna poison must have been already eliminated, since, as we have seen, the injection of the patient's urine into a cat was sufficient to produce one of the most marked physiological effects of the drug. It is of no little importance in such cases to estimate the quantity of the poison that is being eliminated. The case was a very unfavorable one, however, from the condition of affairs revealed by the autopsy, and there can be little doubt that the heart was in an advanced stage of fatty degeneration.

Case IV.—Reported by Dr. Southam in the *British Medical Journal*, in 1868. The patient was thirty-eight years of age, and took two ounces of laudanum. Nearly eighteen hours had elapsed before he came under treatment, and by that time the pupils were contracted to a pin's point, and the respirations had become reduced to four in the minute. The hypodermic injection of $\frac{1}{36}$ of a grain of atropia was given, with the effect of raising the respirations to nearly the normal number ; but this beneficial effect was very brief in duration. Accordingly, the dose was repeated, until five in all had been taken. At the autopsy there was found to be marked congestion of the lungs.

Commentary.—The poison had already been absorbed when the treatment was undertaken, and there was an obvious deficiency in the employment of the atropia. As the whole of the opium remained in the blood, the whole of the atropia ought to have been given at once instead of in divided doses, so as to make a more profound and prompt impression. In a similar case Milner Fothergill administered one grain of atropia at once, and with entire success. Of course the long duration of the toxic symptoms before the remedy was given constituted an unfavorable element in the case.

Case V.—Reported by Dr. Paget in the *British Medical Journal*. A child three and a half years old swallowed an unknown quantity of laudanum, and in order to counteract its effects, $\frac{1}{100}$ of a grain of sulphate of atropia was given in four hours after the taking of the poison. No appreciable result following this, a second dose of half the quantity was promptly administered, and after this it was noticed that the pupils dilated slowly, while the extremities grew cold and the respiration began to fail. Artificial respiration was then resorted to, and, in addition, coffee was given and ambulation and flagellation employed. There was then a temporary improvement, but death took place in twenty-eight hours.

Commentary.—The important effect of atropia on the pupil and the brain is well shown in this case. Here it is probable that the first injection of the remedy was sufficient, for after the second the coldness of the extremities was noticed. It would have been decidedly better to wait and see what the effect of the first dose was before resorting to a second. It seems altogether likely, therefore, that here the amount of opium taken was not very large, and that the too free use of the antagonistic agent, together with the other active treatment employed, proved too much for the strength of a child of three and a half years.

Cases VI. and VII.—Reported by Dr. Haynes, of Philadelphia. One of the patients took an ounce and a half of laudanum, and the other one ounce of crude opium. In both these cases the doses of atropia were much too small, and hence the source of failure was sufficiently plain.

Cases VIII. to XIII.—These were reported by James Johnson, and occurred in the Chinese hospital at Shanghai. In all there was profound opium-poisoning, and in each but one dose of atropia was administered, the amount given being totally inadequate to counteract the effects of the poison. All of the cases occurred in the practice of Dr. Johnson, whose experience has been exceptionally large in this class of cases. He considers the effects of atropia marvellous, and says that in the profound coma of opium narcosis he knows of no other remedy whatever that can produce a beneficial result.

Case XIV.—Reported by Horatio C. Wood, of Philadelphia. In this case one and a half grains, and afterwards one and a quarter grains of opium, had been given for the relief of cholera morbus. To antagonize the profound narcotic effect produced by it, fourteen hypodermic injections of atropia were administered, the whole amount given aggregating one-quarter of a grain. Here the underlying disease, no doubt, had much to do with the fatal result, and such a case is of small value, owing to the uncertainty which is thus introduced into any estimation of the antagonistic action of the two agents.

Case XV.—Reported by Dr. Beddoe. The patient took a teaspoonful of belladonna liniment, and death ensued in sixteen hours. Three injections of morphia of one grain each were given in all. It was found that decided stupor followed the second dose, and hence the third should have been withheld, for after that the patient breathed stertorously, notwithstanding the fact that the pupils remained widely dilated.

It was noted by the observers present that toward the last the case precisely resembled one of opium-poisoning, with the exception that the pupils were dilated instead of contracted ; and this leads me to say that the condition of the pupils in such cases cannot always be depended upon as an index of the actual effect of the antagonistic agents upon each other and upon the system. But, owing to the lateness of the hour, I shall have to defer until next week the further consideration of this subject.

Children's Summer Sanitarium.—The Treasurer of the Children's Aid Society reports that Mr. D. Willis James has given the society $10,000 for the establishment of a summer sanitarium for sick children.

The same society reports that at the Summer Home at Bath, during the past season, 3,084 sick children were treated.

Original Communications.

NOTES OF FOUR CASES OF PHARYNGEAL TUMOR (MYXO-SARCOMA),

With Remarks.

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(Read before the New York Surgical Society, October 25, 1880.)

Case I.—My friend, Dr. Andrew H. Smith, sent me a patient named Annie Dermody, aged thirty-nine years, United States, single, laundress, who was admitted into St. Luke's Hospital September 27, 1878. Patient states that seven years ago a tumor about the size of an English walnut suddenly appeared inside the mouth, at the back part of the lower jaw, upon the left side, which she took to be a gumboil. The swelling was not accompanied with pain. There was no carious tooth in the jaw, nor was there any redness of the cheek opposite the site of the tumor. She consulted a physician immediately, who said it was an abscess, and treated it as such for three months, puncturing it seven times during that period, twice with an instrument resembling a long darning-needle, and five times with a lancet. There has been no discharge from it except a little blood and pus at the time of the first puncture.

For five years the tumor remained stationary and caused her no annoyance. Two years ago it began to grow, and has slowly increased in size to the present time. One year ago she became quite deaf in the ear on the affected side, accompanied with a roaring sound. This she attributed to a "cold," and it lasted but a few weeks. There is no family history worthy of remark in this connection. General health good, and menstruates regularly.

The only trouble she now experiences from the tumor is an increasing difficulty in deglutition, but not accompanied by pain. Is obliged to depend chiefly upon fluids for nourishment. Respiration is not interfered with. Voice nasal.

On admission, the tumor presented the following appearances, viz.: externally the left cheek is somewhat swollen, especially over the body of the lower jaw. The swelling extends slightly before the angle of the jaw, and downward into the neck for a distance of about two inches below the lower edge of jawbone. Forward, externally, the tumor extends as far as a point opposite the second bicuspid tooth. This swelling is quite hard, and the skin is freely movable over it. On opening her mouth, which she can do with ease, the tumor is seen to occupy about half the buccal cavity, pressing the tongue over against the teeth of the right side, and hiding the left tonsil from view. Forward, on the left, the tumor extends as far as the first molar tooth of the lower jaw, but lies back of all the teeth of the upper jaw, springing from the alveolar ridge behind them. From these points it extends across the roof of the mouth, slightly beyond the median line. The finger can be readily passed upward around its posterior border, but the longest finger cannot reach its lower border in the pharynx. The tumor is covered by healthy mucous membrane, has a firm consistence and semi-elastic feel. No point of fluctuation. Aspiration yields no fluid.

Examination of the urine gives negative results.

October 10th.—Removed the tumor, assisted by Drs. McBurney, Sabine, and others. After the patient had been brought under the influence of ether in the usual way, an opening was made through the crico-thyroid space, and my modification of Trendelenburg's canula was introduced, through which the etherization was continued throughout the operation. The left cheek was then laid open through its entire thickness, from the angle of the mouth outward. The jaws were then forced apart with a mouth-gag, exposing the tumor well to view.

An incision was made through the mucous membrane, about three inches long, over the most prominent part of the tumor. Enucleation was then done, chiefly with the fingers. This was rendered difficult by the size and depth of the mass. After about one-third of the tumor had been enucleated the investing sac burst, and the contents, resembling soft cartilage, exuded freely. Finally, the entire sac was removed, with its remaining contents, the finger at one time touching the cricoid cartilage. Hemorrhage moderate, no vessels requiring the ligature. The edges of the wound in the mucous membrane were brought together with two fine carbolized silk sutures, and a rubber drainage-tube was introduced, the end projecting from the angle of the mouth. The wound in the cheek was secured with hare-lip pins and carbolized silk sutures. Trendelenburg's canula was then withdrawn, and the wound closed with carbolized silk sutures. Patient rallied well and had no vomiting. Ordered strictly milk diet, carefully administered.

By the 14th of October all the sutures from mouth, face, and neck had been removed.

By October 24th the wounds, except that through the mucous membrane over the tumor, had healed. Patient had a teazing, irritative cough, which finally ceased, and she was discharged cured on the 19th of November, 1878, at which time, on looking into the mouth, hardly a trace of operative procedure could be detected. Dr. Satterthwaite reports as follows:

"*Pathological report.*—The specimen consists of a number of soft, pulpy, almost gelatinous masses, surrounded by gelatinous fluid. On microscopical examination it was found to be composed of connective-tissue fibres studded with connective-tissue corpuscles of various forms, some having tail-like processes (at two or three points). The connective tissue and corpuscles, at many points, were in a state of mucoid degeneration. This was decided to be a myxo-sarcoma—by which is meant one that has round, oval, or stellate corpuscles or a mixing of the ordinary elements of sarcoma."

Up to this time, October, 1880, there has been no return of the disease.

Case II.—October 2, 1880. David Lauderbach, aged forty years, United States. Admitted to St. Luke's Hospital with following history: Has never had syphilis; urine normal. Up to three years ago he had frequent attacks of quinzy sore throat, since which time he has been free from them.

About five months ago he noticed that his throat felt sore on rising in the morning, and he swallowed with difficulty. These symptoms increased in severity. For the past three months he has not been able to swallow solid food, and has lived principally upon milk and beer. During this time he has lost thirty pounds in weight.

Externally a slight fulness is observed below the angle of the jaw upon the right side. On opening the mouth a tumor is discovered in the posterior fauces extending down into the pharynx. Tumor is oval in shape, situated beneath the pharyngeal mucous membrane, and attached by a broad base posteriorly and to the right side, hiding the tonsil from view. The mass extends inward and pushes the uvula to the left side. The entire boundary of the tumor cannot be reached with the finger, especially at its lower part, which extends nearly to the cricoid cartilage, but the finger can be readily passed above and behind it.

The tumor gives an elastic feel, and is covered by healthy mucous membrane. Patient is somewhat anæmic and says he is losing strength rapidly. Respiration is somewhat embarrassed during sleep. Voice nasal.

October 11th.—Operated this day, assisted by Drs. McBurney, Sabine, and Bull. Several other surgeons were present.

Patient etherized in the usual way, when laryngotomy was performed, and the improved Trendelenburg's canula was introduced, through which he breathed and took the ether in the subsequent steps of the operation. The jaws were forced apart with an instrument, and a ligature passed through the tip of the tongue by means of which that organ was drawn well over to the left side of the mouth. A piece of sponge, with a long string attached, was then passed into the throat, shutting off entirely the trachea and œsophagus.

An incision was now made through the mucous membrane covering that part of the tumor in view. The first attempt at enucleation with the finger broke through the thin investing sac, and the contents, resembling soft cartilage, oozed out. The mass was rapidly broken down with the fingers, after which the sac was seized between the jaws of a fenestrated pile-forceps and entirely removed. Hemorrhage was moderate; no vessel requiring the ligature.

Removed the tracheal canula, and brought edges of the wound together with fine carbolized silk ligatures, passed merely through the thickness of the skin. No sutures were used in the wound of mucous membrane in the mouth, nor was any attempt made to drain it. Patient recovered well from the effects of the ether and had no vomiting.

October 12th. — Patient passed a comfortable night. Swallows with considerable difficulty, but is able to take a fair amount of milk. Has but little pain. Ordered a mouth-wash of sol. chlorate of potash and myrrh. On the second day after the operation patient's temperature rose to 102°, but as there was no swelling or tenderness in the throat I was forced to look in another direction for the cause, and found it in a rectum impacted with fæces, on removing which his temperature fell and he improved daily.

October 25th.—Wound in fauces is healed, and he swallows with ease. There is no swelling to be discovered. Wound over the larynx externally is closing by second intention.

November 6th.—The wound in the larynx is entirely healed and the irritative cough has ceased. All the wounds are now healed.

Pathological report.—Dr. Satterthwaite reports: "It is either a fibro- or myxo-sarcoma; probably there is an admixture of both mucous and fibrous elements, but which was in excess I cannot say now."

Case III.—Professor Henry B. Sands has kindly furnished me with his notes of a case operated upon by him, which read as follows, viz.:

October 15, 1878.—Henry Sands, aged twenty-eight years, Norwich, N. Y., came with Dr. L. I. Brooks to consult me with regard to a post-pharyngeal tumor, which was first noticed last December, but which probably existed at least eighteen months ago, as at that time his voice was observed to have a nasal tone. Dr. Brooks saw the case first on May last, and thinks that since that time the tumor has not grown much larger. No hereditary antecedents. Patient seems rather anæmic, and says he has lost ten pounds since last June. Appetite fair. Complains of slight debility.

The tumor is oblong, situated beneath the pharyngeal mucous membrane and attached posteriorly and on the left side, where it hides the tonsil from view. The palatal mucous membrane is expanded over it and the uvula lies on its right surface in contact with the fauces. The tumor fills the pharynx below the level of the palate, and can be felt in the submaxillary and parotid regions, where it is slightly prominent. It is somewhat movable laterally, but seems closely attached on the left side. The mucous membrane over it is healthy. Left carotid apparently not enlarged. No complications. Urine normal.

Patient says he can swallow easily, but he takes hardly any solid food. Respiration is sometimes embarrassed during sleep. Voice nasal. The tumor is moderately firm and elastic. Dr. Brooks has determined its solid character by means of the aspirator.

October 22d.—Dr. Sands removed the tumor assisted by Drs. Markoe and Curtis. Dr. Geo. A. Peters was also present. Ether, laryngotomy. Trendelenburg's canula, the action of which was entirely satisfactory, the only inconvenience noticed being a momentary irritation of the tracheal mucous membrane when the rubber bag was inflated. Made one vertical incision, about three inches long, over the most prominent part of the tumor, and then effected enucleation mainly with the fingers, using the scissors to divide a few bands of connective tissue. The tumor was not unlike soft cartilage, and seemed to be a myxo-sarcoma. It came to pieces in the attempt to remove it, and appeared to be contained in a well-defined capsule of areolar tissue, which was also taken away, leaving the surrounding parts, as far as could be ascertained, entirely healthy. The bleeding was very moderate, and no vessel required the ligature. United the upper half of the wound with three silk sutures. Removed the tracheal tube and closed the wound with silver sutures. The operation lasted forty-five minutes.

October 25th.—Patient has done well since the operation. Until last evening the bladder had to be emptied by a catheter.

Yesterday he was hoarse and complained of difficulty in swallowing, but was free from dyspnœa. Has been fed on beef-tea and milk. Removed silver sutures to-day, the wound in the neck having entirely healed by the first intention.

October 26th.—Patient feels quite well and wants to sit up. 9 P.M.—Has suffered from headache, and passed an uncomfortable day. Feels better now. Swallows without difficulty. Temperature, 101°.

October 27th.—Doing well; removed sutures from palate, which was united.

October 28th, 12 M.—Had an uncomfortable night Being kept awake by a cough and expectoration, the substance expectorated containing considerable pus Temperature, 100⅗°; pulse, 104. Left side of neck near angle of the jaw, slightly swollen and tender. Swallows without difficulty, but still takes only soups, etc., except raw oysters, which are not masti cated. Inspection of the pharynx does not explain the cough; neither does auscultation; the breathing being normal. 5 P.M.—More comfortable. Took one-eighth grain of morphine and slept several hours during the day. Felt chilly an hour since, but had no rigor. Coughs less. Pulse, 104; temperature, 101⅘°.

October 29th.—Pulse, 124; temperature, 101⅖°. Considerable swelling in pharynx and behind angle of jaw. Deglutition difficult. Wound cavity discharges freely; washed it out with permanganate of potash, introducing with a syringe. No dyspnœa, but occasionally troublesome cough.

October 31st.—Much better. Temperature, 98⅖°; pulse 96. Swelling and suppuration greatly diminished.

November 1st.—Convalescent.

November 10th.—Quite well. Is able to walk out.

November 14th.—Patient left for home.

Dr. Delafield writes as follows: The tumor of the pharynx removed by you is composed of, 1st, connective tissue; 2d, mucous tissue; 3d, adipose tissue; 4th sarcomatous tissue; 5th, irregular glandular follicles, lined with polygonal epithelium, and containing masses of hyaline matter.

It is not a cyst, but a solid tumor which has softened at the centre. It seems to belong to that class of composite tumors which occur most frequently in the parotid and submaxillary region. It might be called an adenoid myxo-sarcoma.

The prognosis is that of local recurrence, but without metastatic growth.

October 16, 1880.—Patient called to report himself in excellent health. No return of tumor. Phonation and deglutition perfect.

Two years have elapsed, and there has been no return of the tumor.

CASE IV.—Dr. Morris J. Asch has kindly furnished me with the following brief notes of a case of pharyngeal tumor upon which he operated in 1877. Mrs. H——, aged fifty years, came to me in April, 1875, complaining of sore throat. Examination showed the right tonsil to be hypertrophied, with some swelling of the velum above it. Local applications having failed to relieve, a portion of the tonsil was excised. Nearly two years afterward, in December, 1876, the patient again presented herself. She was suffering from dyspnœa and dysphagia, and articulation was seriously impaired. Inspection revealed a hard and elastic tumor filling up nearly the entire pharyngeal space. It involved the whole of the soft palate on the right side, extending downward between the pillars to the free border of the epiglottis, and across, pushing the uvula before it to the pillars of the opposite side. Backward it extended to the wall of the pharynx, against which it was pressed so firmly that its extent upward could not be determined. The anterior pillar of the right side was stretched tightly over the face of the tumor, and the tonsil of the same side was not visible. As the functional trouble was very severe I determined to remove the tumor at once, and after showing the patient at a meeting of the New York Laryngological Society, I performed the operation, on January 4, 1877, in the presence of Drs. Erskine Mason, McBurney, Beverley Robinson, Dawson, and others. The patient being put under he influence of ether, an incision was made in the face of the tumor from the hard palate, downward; with some difficulty the tumor was enucleated; the sac drawn out and severed from its attachments by he galvano-cautery. Some trouble was experienced during the operation by blood flowing into the larynx, but no serious inconvenience resulted. The tumor was submitted to several microscopists for examination, and was pronounced by Drs. Heitzman and Mann to be myxo-sarcoma. The patient made a good recovery. The functional troubles were entirely relieved, and up to the time of the present writing (October 21, 1880)—a period of four years—I have not heard that the growth has reappeared.

Remarks.—I am here enabled to present to the society an interesting group of four cases of tumor of the pharynx, apparently identical in character, and certainly rarely encountered. During an experience of thirty years, and for the greater part of that time connected with large hospitals, Case No. 1 (that of Dermody) was the first tumor of the kind which had been brought to my personal notice. Her case was one of such interest that a large consultation was held, at which many surgeons other than the immediate staff of St. Luke's were present. No one of them had seen a similar case, and there was great diversity of opinion as to its nature and the best method of operation.

I have consulted many of the systematic works on surgery easily accessible and find but little light thrown upon the subject of tumors of the pharynx. Some writers ignore the subject entirely, while others merely allude to polypoid and cancerous growths in this situation, and state that these are of rare occurrence. Holmes, in his "System of Surgery," gives more space to the subject than most writers, but he devotes only two scant pages to its consideration. He states that "tumors attached to the pharynx are not very commonly observed. When they occur, they are generally apt to be somewhat pendulous, and are often attached to a portion of the walls by a narrow neck. They have been found to consist of fat and fibrous or fibro-cellular tissue." He mentions the record of a fatty tumor of the pharynx, by Mr. Holt, in the "Transactions of the Pathological Society": "This specimen was removed from the body of a man eighty years of age. Twelve years previously his attention had been first drawn to his throat, from an occasional sensation of choking. About four years previous to his death, during an attack of vomiting, a large mass was protruded into the mouth, and, to prevent immediate suffocation, he was compelled to return it as quickly as possible. He was at all times better able to swallow fluids than solids. He died suddenly, while in the act of smoking. The tumor was found to be a large, pendulous, fatty mass, filling the pharynx and extending downward to the œsophagus for nine inches. It was attached by fibrous tissue, covered by mucous membrane to the left side of the epiglottis, and also to the upper part and side of the pharynx. The tumor had by its weight so dragged upon the epiglottis that the perfect closure of the laryngeal aperture was not practicable. The mass, except at its attachments, was hanging loose in the pharynx and œsophagus. It consisted of adipose tissue." Holmes also mentions two specimens of tumors of the pharynx in the College of Surgeons, successfully removed during life: "One is a large, soft lobulated mass, apparently fatty or gelatinous, like a nasal polypus; it was attached by a narrow pedicle behind the tonsil. A second is apparently a firm fibrous mass, and was attached by a narrow pedicle to the wall of the pharynx." He also states "that tumors, either of a fibrous or fatty structure, which are not pendulous, have been seen to grow and insinuate themselves under the mucous membrane; and as they increased in size so they interfered with the aperture of the glottis, and interrupted the passage of food to the stomach."

At a meeting of the American Larnygological Society (*St. Louis Med. and Surg. Journal*, September, 1879), Dr. F. I. Knight, of Boston, reported a case of retro-pharyngeal sarcoma. His case induced Dr. Knight to look up the records of similar pharyngeal growths and to make brief abstracts of cases found. The result is a record of cases described by Arnott, Busch, Röser, Wagner, Larondelle, Rosenbach, Venturini, Billroth, Syme, J. Carreno, S. H. Chapman, and Cohen, of Philadelphia. In the larger number of the cases described the tumor was attached to the walls of the pharynx by a pedicle. I would refer all who are interested in this subject, and who have not ready access to the *St. Louis Journal*, to the monthly abstract of *Medical Science*, for Nov. 1879, vol. vi., No. 11, p. 504, where they will find a *résumé* of the paper.

That so little is said on this subject by writers on surgery establishes the rarity of the occurrence of tumors in this situation.

Most writers recommend the early removal of polypoid and pendulous growths in the pharynx, but insist strenuously, that the only hope of benefit must be from treatment restricted to the pendulous form of tumor, stating that the attempt to remove a tumor attached throughout to the walls of the pharynx would be a highly dangerous proceeding, and most probably unsuccessful in its results if not fatal during its progress.

One object of this paper is to contend, that in the past surgeons have overestimated the dangers attending this operation, and to suggest a plan of operation, which will reduce the danger to a minimum.

In my first case, as I have stated, no one present at the consultation was able to give the result of any experience as to the best method of procedure, and I was left to work it out myself. On reflection, I determined to be prepared, so far as possible, to meet any danger or complication which might arise. The tumor was a very large one, filling up most of the buccal cavity, and giving very scant room to work through the natural opening of the lips. I therefore determined to split the cheek, thus giving me more room. Fearing that this opening might not give me sufficient room, or that the tumor might not be enucleable and require a tedious dissection for its complete removal, I had a dentist make a gutta-percha splint for the jaw and was thus prepared to make a section of the lower jaw, if necessary. Recognizing that the chief danger to the patient would be from the entrance of blood during the operation, into the trachea through the epiglottis, I determined upon laryngotomy as a preliminary step, believing that experience had proved laryngotomy to be a simple operation and safe in its results, provided the parts are in a healthy condition, and that no danger or irritation need be apprehended from the introduction of the tube.

All the steps of the operation, previously determined upon, were pursued with the exception of section of the jaw-bone, which was not found to be necessary. Trendelenburg's canula did not give me entire satisfaction, as the inflation of the rubber bag caused temporary irritation of the larynx, whenever it was distended, and it is also very difficult to keep up perfect and continuous inflation. My improvement of Trendelenburg's canula, alluded to above, consists in considerably shortening its length; in so arranging the rubber collar, that when it is inflated it will not occlude the lower opening (as I have known it to do in the original instrument), and the method of supplying air to the collar through a smaller silver tube within the larger one. The result of the operation in the case of Annie Dermody was in every way satisfactory, and I felt much better prepared, by the experience thus gained, to attack my second case, that of Lauderbach.

In this case the tumor was somewhat smaller, so that I was enabled to get sufficient room to remove it without splitting the cheek, thus avoiding the scar resulting; although the natural opening through the lips was so small, that I was more than once tempted, during the procedure, to make the incision. In this case (No. 2) I relied more upon the sponge, which was made to fill up the throat, for preventing the entrance of blood into the air-passages, than upon Trendelenburg's apparatus. Indeed, I consider that the ordinary tracheal canula, together with the sponge in the throat, will answer every purpose.

It will be seen by Dr. Sand's report of his case, that he also considered it advisable to commence his operation by doing laryngotomy; and the value which Dr. Asch places upon that procedure may be best learned by his own testimony.

Dr. Asch, in a note received on the 24th of October, 1880, says that the only real difficulty met with in his operation resulted from the want of experience as to the value of tracheotomy in similar cases. The bleeding was very profuse at times and would get into the larynx, rendering it necessary to delay the operation, in order to clear the throat of blood and to re-establish suspended respiration. This occurred several times, extending the time of the operation to one hour and forty-five minutes.

Recapitulation.—First. These four tumors all presented the same pathological appearance, belonging to the class known as mixo-sarcoma. They were invested by a sac-wall of considerable firmness, and were enucleable.

Second. Tumors of a large size, situated in the pharynx and having very broad origin and attachments can be removed with safety, and will be found in many cases to be enucleable. Should the tumor be of considerable size and distinctly cancerous in its nature, I should recommend non-interference.

Third. I should in all cases perform laryngotomy, as a preliminary step in the attempt to remove the growth, believing it to be a safe procedure.

Fourth. I should provide against the flow of blood into the trachea by the use of Trendelenburg's canula, and as an additional precaution crowd a piece of sponge with a long string attached into the pharynx, so as to shut off the laryngeal opening and œsophagus.

Fifth. A tumor of considerable size can be removed through the natural opening of the lips, although it greatly facilitates the operation to split the cheek, and in some cases it may be necessary to saw through the jaw-bone. The only objection to incising the cheek being the scar which remains: this is to be avoided, when possible, especially if the patient be a female.

* * *

Transmissibility of Bovine Tuberculosis.—Further evidence of the transmissibility of tuberculosis from cows to other animals through the milk has been obtained by M. Peuch. He fed two pigs, and some rabbits were fed upon the milk of a tuberculous cow for from one to two months. The animals, on being killed, were in each cases found to have tubercles. It should be added, however, that the tubercles were very few in number, and had caused no marked symptoms.

ELECTRICITY AS A PARALYZING AGENT IN THE TREATMENT OF EXOPHTHALMIC GOITRE.

BY THOMAS W. POOLE, M.D.,

LINDSAY (ONT.), CANADA.

Dr. A. D. Rockwell, of New York, has offered to the readers of The Medical Record, on two occasions (October 4, 1879, and September 11, 1880), interesting and useful reports of cases of exophthalmic goitre treated by electricity. For some time past I have held and advocated (Medical Record, November 1, 1879) that electricity is essentially a paralyzing agent; and I propose to show here, as briefly as possible, that the beneficial results thus recorded in exophthalmic goitre are due to the paralyzing action of electricity, and not to any supposed stimulant, tonic, or other quality with which this agent is popularly accredited.

While seeking to avoid the prolixity of an enumeration of the symptoms of this disease, which are well known or easily accessible, it is necessary to glance at the general physiology and pathology of the implicated parts. The thyroid gland is in part composed of "a dense capillary plexus." It is fed by four large arteries passing directly to it from great arterial trunks. These thyroid arteries are "remarkable for their large size and frequent anastomoses." They are occasionally supplemented by an additional artery derived from the arteria innominata. If the gland be not an erectile tissue, as has been suggested, it is at least extremely vascular. Dr. Sœlberg Wells writes: "Its veins are generally much dilated, even, perhaps, to such a degree that the disease might be termed 'bronchocele aneurysmatica;' and often a distinct diastolic murmur can be heard in them" ("Dis. of the Eye," p. 710). Again, "among the first symptoms are great palpitation and acceleration of the action of the heart," leading, after a time, to "dilatation and hypertrophy, especially of the left ventricle" (Ib.). To this, join increased pulsation in the carotids, inflamed eyelids, injected conjunctivæ, the presence of "hyperæmic swelling of the adipose cellular tissue of the orbit," and as "Dr. Wright found, besides strong dilatation of the veins, a small quantity of half coagulated blood extravasated over the eyeball" (Ib., p. 711), and there can be no room to doubt that the pathological condition is one of extreme vascular dilatation and engorgement, in which an excess of pabulum leads to hyperplasia of tissue.

Now, the calibre of the dilated arteries thus conveying an excess of blood is under the nervous control of the middle and inferior cervical ganglia of the sympathetic; but chiefly of the former, which was called the thyroid ganglion by Haller. These ganglia are in direct communication with the spinal nerves, from which their motor power is largely reinforced. The position of the electrodes in Dr. Rockwell's treatment, it will be seen, is eminently calculated to bring these ganglia and their nervous connections within the circuit of electrical influence. Indeed, this is the very position prescribed by electricians for "galvanization of the sympathetic." There can be no doubt, therefore, that it is through these sympathetic ganglia and their vascular or vasomotor nerves that the diseased condition is influenced and its improvement effected.

From this it is evident that the starting-point of the disease is to be sought in some perversion of function on the part of the sympathetic and its vaso-motor nerves, which permits or induces undue vascular dilatation in vessels specially under the control of these nerves. What is this pathological condition of the sympathetic ganglia and nerves? All observers are not agreed. The weight of authority, however, largely preponderates in favor of the conclusion of Sœlberg Wells, that it is "far more probable that the affection is due to an irritation or neurosis of the sympathetic." Thus, "Wright, Moore, Trousseau, etc., found the cervical ganglia of the sympathetic enlarged, hard, and firm. . . . The trunk of the sympathetic, as well as the branches going to the inferior thyroid and vertebral arteries, were found to be enlarged." It is fair, therefore, to conclude that there is here an undue excitation of the sympathetic just as there is also said to be "much nervous excitement" generally.

Here, then, we have vaso-motor (sympathetic) excitation and vascular dilatation with hyperæmia; a cause and effect, which (in spite of the theory of the day) are found in constant association, just as vasomotor paralysis and arterial contraction also go together; for *at no time is arterial contraction so general and complete as in death, when nerve-force is extinct.* Here the property of contractility in muscle survives nerve-force, contracting these tubes to the emptying of their contained blood into the veins, which, though more capacious than the arteries, undergo material distention.

In the cases under consideration the electric current, by *a moderate paralysis of the excited vaso-motor nerves*, brings about a reduction in the calibre of the arterioles of the parts affected; thus gradually putting an end to the vascular engorgement on which the exophthalmic goitre depends.

Arterial contraction is never produced by a stimulant. In whatever degree it occurs, it is a tendency toward the contraction present in death; and the agents which produce it are inimical to life in a greater or lesser degree, according to their power. Electricity produces this effect on the arterioles, through their controlling vaso-motor nerves, by paralyzing them; because only by withdrawing nervous force could it do in part what the extinction of nerve-force renders complete. In other words, a progressive diminution of nerve-force is necessary to arrive at a goal where nerve-force is extinct, that is, where arterial contraction is most complete. Free play being thus afforded to the property of contractility in the arterial muscle, it, like all other muscles, passes into a state of contraction in proportion to the absence of nervous influence (Dr. C. B. Radcliffe, F.R.S., "Lectures on Epilepsy," etc., p. 100).

Hence, for curative purposes, only a moderately paralyzing wave of electricity is permissible; otherwise undue arterial contraction will induce anæmia of the brain, with dizziness, loss of consciousness, and other alarming symptoms, well known to bold electricians. No one will venture to call in question the fact that electricity produces the effect on the vascular system here stated, since it has been definitely proved by direct inspection of the vessels of the dura mater and pia mater during external applications of the electrodes to the neck and scalp. Furthermore, the greatest degree of contraction occurred at the moments of interruption of the galvanic current, a circumstance which accords with Dr. Rockwell's greater success with the faradic or interrupted current (*Gazette hebdom.*, Oct. 3d).

Nor is the fact that arterial contraction is thus produced by electricity at all inconsistent with the other fact, that electricity, when superficially employed, may produce local hyperæmia. It does so by the contractions it occasions in muscles, which exercise them, and thus blood and pabulum are attracted to their substance, and, if suffering from disuse, their nutrition is improved. But even here the muscle derives advantage at the expense of the nerve, the function of which is temporarily arrested in order that the muscle may contract. Hence it is, that the muscles of a limb, whose motor nerves are already partially paralyzed by disease, contract to a weaker current of electricity than will suffice for the muscles of a limb whose nerves are acting normally (Dr. J. Russell Reynolds, "Lec. on Clin. Uses of Elec."). The weaker current suffices to extinguish the power of the feebly acting nerves, but fails to annul the vigorous action of the healthy ones. If electricity were a stimulus to nervous action, it is obvious that results the very opposite ought to follow.

I must pass over further discussion of this part of the subject, in order to notice briefly a statement commonly made on high authority, and very generally accepted. It is that a moderate current of electricity acts as a stimulant, while a very powerful current paralyzes. (Dr. A. H. Bennet, *Brit. Med. Journal*, Jan., 1880, p. 46; last "Braithwaite," p. 71.) It is impossible that this proposition can be true. Electricity is one of the forces of nature, and the mode of action of the natural forces is necessarily invariably uniform and consistent. From the spark of the battery to the flash of lightning there is an immense progression in power, but the addition of any number of sparks to that of the battery can in no way change its character or modify its mode of action, which is ever the same, and tends toward the same goal. Just as the flash of lightning kills, the battery spark tends to kill, in proportion to its power, and only fails to kill because of its feebleness and the counter-action of opposing forces. We take advantage of its weakness (as we do of fire, water, heat, etc.) to render it beneficial to us; and if the *effect* produced is different from that of the very powerful current, or the scathing lightning, it is not that the thing itself has changed its nature or modified its mode of action. If the greater discharge of electricity is a paralyzer, the battery spark is a paralyzer, too, in proportion to its power; the difference being not in quality but in degree. To assert otherwise is to controvert the plain teaching of natural science.

The same law of uniformity applies to the action of drugs, which are the embodiment of natural forces; and any really scientific exposition of their mode of action must repudiate the ideas now current, that a given drug reverses its mode of action in varying doses, or that it stimulates one nerve or one portion of a nerve while paralyzing another. (Dr. Ringer, belladonna, etc.).

In conclusion I may add, that a practical experience of some years in the use of electricity confirms the views expressed above as to the character of its influence on the nervous system. I do not deny its utility—like other paralyzers—in appropriate cases. But it bears a wrong label. The erroneous estimate which assigns it a place as a stimulant, tonic, or vitalizer, has been a fruitful source of much charlatanry, and has led also to numerous erroneous inferences both in physiology and therapeutics. Because it arrested the frog's heart, which it could hardly do as a stimulant, other nerves, antagonistic to the cardiac motor nerves, must be found to suit its assumed action. Hence the purely imaginary "inhibitory" system of nerves, with equally hypothetical inhibitory "centres," arraying the entire field of innervation in two hostile camps, the function of each being to countermand or interdict the action of the other, involving a frightful waste of force in the organism.

We smile now at the Archæus of Paracelsus, that "imaginary demon" supposed to preside over certain bodily functions. Future generations will smile at many of the notions of to-day, and recognize the simple fact that electricity stops the heart by paralyzing its motor ganglia.

NOTE.—Since the foregoing has passed out of my hands, I find in the simple facts of the authentic experiments, ample and conclusive proof of the paralyzing character of the electric current, in all its phases —intra-polar, extra-polar, direct, and inverse. I hope soon to submit this proof to the Editor of the RECORD.

FOREIGN BODY IN THE URETHRA.

By CHAS. M. SELTZER, M.D.,

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THE following curious case is another instance of that form of human depravity of which we rarely hear, and then only when the culprit is brought to grief:

J. Y——, aged forty-four years, was admitted to the hospital August 26th, complaining of pain in his perineum, difficulty in urination, and inability to walk without great pain. His history was entirely negative, though a purulent discharge was seen issuing from his urethra. Upon making an examination, I felt a projecting, hard body in the median line of the perineum, half-way between the anus and scrotum; this, upon being sharply questioned, he confessed to be what he called a long pencil, that he had attempted to introduce into his urethra while "foolish from drink" the Saturday night previous (August 21st), and after it was part way in it slipped from his fingers, and passed beyond his reach. Upon introducing the finger into his rectum, the object could be felt projecting into the bladder, but the end of it could not be reached. The bladder was not overdistended, because the urine dribbled out alongside of the foreign body. The case was transferred to the ward of Dr. Chas. B. Nancrede, Surgeon in charge, and the next day he attempted to withdraw the body by means of various urethral forceps and instruments; but fearing the use of too much force, lest the bladder or urethra be injured, it was deemed advisable to perform median perineal section.

An incision about one and a half inches long was made into the urethra, in the perineal median line, and the end of a wooden handle of a common penny penholder was exposed. This was seized with the forceps, and the entire handle, five inches long, was withdrawn, the removal of which was followed by the escape of a moderate amount of pus and urine. The bladder was washed out, and a flexible catheter introduced through the urethra. Two days later the catheter was removed, and the patient had no difficulty in passing his urine, very little of which came through the wound. A wash composed of ac. salicylic, gr. xx., aquæ, Oj., was applied to the wound, and the following infusion given for his cystitis:

℞. Foliæ buchu,
Foliæ uvæ ursi,
Sem. lini. ....āā ℥ j.
Sodii bicarbonatis................ ℥ ss.
Aquæ bullien..................... Oij.
M. S.—A wineglassful t. i. d.

His temperature fluctuated slightly between 98.5° and 100°, until the afternoon of the tenth day, when he had a severe chill, followed by fever, and a temperature of 103.4°. Two days later he had another chill, and rise of temperature to 101.4°. No assignable cause could be found for these chills. The wound was entirely healed at the end of the second week, when the patient was placed on tonic treatment, and at the end of the third week was discharged cured.

One of the most noteworthy features of this case is the fact that for six days this man walked around, and sometimes actually worked, with this piece of wood, five inches long, lodged in his urethra and bladder.

Progress of Medical Science.

Acquired Universal Leucoderma.—Dr. George P. Hall, of Belleview, Texas, records a case of leucoderma in the *Louisville Medical News*, September 25, 1880. The affection was at first ascribed to a partial sunstroke, but an examination of the symptoms and course of the disease render it more probable that the primary illness was a remittent fever, and the skin-affection a true malarial leucoderma. The patient, a dark mulatto, became overheated while at work, and lay prostrate for several hours; on recovering from his illness two weeks later he noticed a circular spot of discolored skin, the size of a silver dollar, just beneath the pomum Adami. Other spots of white skin shortly appeared in different situations, till his whole body became pied. This discoloration proceeded slowly for five years, then became quite rapid, and finally the leucoderma became almost universal. There was no evidence of hereditary or specific taint, the general health was excellent, and the functions of the skin were in no wise altered. The patient had been under treatment, but without avail.

Successful Removal of a Cervical Tumor Inclosing a Portion of the Pneumogastric Nerve.—Prof. Lücke, of Strasburg, reports the following case: Mrs. K., æt. 28, in 1878 consulted him in regard to a tumor in the right submaxillary region. She was a well-made woman of healthy complexion, but with a rather poorly developed thorax. Her elder sister had died of hydræmia following a malignant lymphoma of the neck. For this reason the professor supposed that the present tumor, which was oval in shape, movable, and of firm consistency, had the same character. Accordingly it was removed by a simple operation, and the wound healed by primary intention. Upon examination by Prof. von Recklinghausen, the tumor was found to belong to the hyaline variety of epithelioma, and it was thought that it had taken its origin from an ulcerated lobule of the submaxillary gland. The parotid gland was not involved.

In February, 1880, the patient again presented herself with recurrent tumors—one in the cicatrix; a second, larger one, beneath the right sterno-mastoid muscle. Functional disturbances were apparently absent; the patient's general health was good. The cicatricial tumor was readily removed, although there was considerable venous hemorrhage. The larger tumor was then exposed by a longitudinal incision along the border of the muscle; the latter was now seen to be so closely united with the tumor that it had to be cut above and below. The carotid artery was easily separated from the tumor, but the pneumogastric nerve and jugular vein appeared to be entirely surrounded by it. The vein was ligatured just above the clavicle, and again above the upper end of the tumor, and the latter was then exsected together with the inclosed portion of the pneumogastric nerve. Upon measurement this was found to be twelve centimetres long. During section of the nerve disturbances of pulse or respiration were not noticeable. The wounds healed kindly; on the tenth day union was complete, suppuration had not occurred, neither had respiratory disturbances been observed. The pneumogastric nerve was found to be four times its natural thickness, and was interwoven with portions of the tumor. In July the patient was seen again. Her respiration was then easily "excitable," otherwise normal. The right arm was weaker than the left, and the shoulder was not easily lifted. Flattening of right side of neck, and superficial carotid pulsation. Attacks of coughing were provoked by pressure upon the cicatrix. The right half of the face, especially about the cheek, was hypertrophied, which, according to Lücke, resulted from the ligature of the jugular vein.—*Centralbl. f. Chir.*, September 4, 1880.

A New Method of Applying Pressure in Traumatic Aneurism.—Dr. B. R. Palmer, of Sauk Centre, Minn., reports a case of traumatic aneurism of the femoral, resulting from a knife-wound, in which he made an ingenious use of the plaster-of-Paris bandage to facilitate the application of pressure to the artery. He took a band of coarse, thick Mackinaw flannel about six inches wide and long enough to envelop the thigh and lap over about two inches, soaked it in a mixture of the plaster, and applied it to the thigh over the tumor. An aperture was cut in this band, directly opposite that part of the femoral artery just below the profunda, where the pressure was desired. As soon as the plaster had set, about twenty minutes, a piece of cork, properly shaped and covered with chamois-skin, was pressed down upon the artery through this aperture, about an inch of the cork being allowed to project outside the band. A roller-bandage of stout elastic webbing was then applied around the thigh, outside the plaster band, and over the projecting portion of the cork compress, the tension being increased at every turn, until pulsation in the popliteal space could be no longer felt. The apparatus was allowed to remain in situ for about twenty-four hours, with very little inconvenience to the patient. On loosening it there was no return of pulsation, and coagulation of the contents of the tumor seemed to have taken place. In a few weeks the tumor had become absorbed and gave the patient no trouble. Dr. Palmer has also employed this apparatus with great success in the treatment of secondary hemorrhage from gunshot wounds and after amputations, particularly those from frost-bites, where secondary hemorrhage so frequently occurs, and where long-continued pressure is necessary.—*Chicago Medical Review*, September 5th.

Hemorrhage from the Gums Resulting in Death.—A case of hemorrhagic diathesis in a strumous patient, which ended fatally from profuse hemorrhage from the gums, is recorded in the *London Lancet*, Sept. 4th, by Dr. Thorowgood. The bleeding from the gums first showed itself a few days before admission to the West London Hospital. The patient had previously been subject to profuse hæmoptysis, and at times had found "large blue lumps" on the chest, over the sternum, coming without any cause. The swellings lasted a few days, and then disappeared. He had never had any hæmatemesis or melæna, nor any effusion into the joints. He volunteered the statement that four of his relatives had died of the same thing, but did not know what relationship they bore to him. After entering the hospital, the bleeding from the gums was checked for a few hours by astringents, but it then returned as bad as ever. The blood came with a pulse-like motion from the gums of the last two upper molars on the right side; it was watery-looking and seemed to be arterial. The teeth were all sound, white, and painless. On the second day after admission he began to vomit black discolored blood at frequent intervals, and he died of exhaustion on the following day.

A Case of Simple Stricture of the Common Bile-Duct, causing Jaundice and Ascites.—Prof. George Johnson reports a case of simple stricture of the common bile-duct, causing jaundice and ascites, in which the true nature of the pathological changes was not suspected until the autopsy. The main phenomena were: deep jaundice, followed by great ascites; the disappearance of both the jaundice and the ascites after three tappings; the reappearance of the same after an interval of five months. There was no indication of syphilis, no history of gall-stones. The patient was much relieved by each tapping, and apparently recovered from her illness, but the ascites always reappeared after a varying interval. A fourth operation also afforded great relief, but four days afterward she had a rigor, which was followed by symptoms of peritonitis and death. The autopsy revealed a large amount of dark, turbid liquid in the abdomen. Liver stained of an olive-green color. The gall-bladder was distended by dark bile to the size of a turkey's egg, and extended some distance below the margin of the liver. The cystic and hepatic ducts were much dilated, the dilatation of the hepatic ducts extending into the interior of the liver. The common duct was obstructed by a fibrous thickening of the coats. It was evident from the lesions that the jaundice was a direct mechanical result of the constricted gall-duct; the ascites an indirect result. It is interesting to note that, although the last tapping, when the strength of the patient had been much impaired, was followed by peritonitis, the previous three tappings not only afforded great relief, but unquestionably prolonged her life in comfort for several months.

A Case of Fatty Growths in the Right Auricle.—Dr. Lewis Schooler, of Nevada, Iowa, reports a case of fatty tumors of the right auricle in *Gaillard's Medical Journal* for August, 1880, with the following history: Patient, female, æt. 22 years, had suffered from dyspnœa and palpitation in the recumbent posture, but in the upright position she experienced scarcely any difficulty. The doctor found her in bed, with pale countenance, eyes closed, breathing stertorous, pulse irregular, sometimes beating regularly for a few seconds, and then there would be total absence of the pulse from the radial artery for a few seconds. Patient was unconscious and evidently dying; auscultation over the region of the heart showed the contractions of that organ to be regular; when the pulse was felt at the wrist the sounds were normal, and when the pulse was absent at wrist the sounds were scarcely discernible. Patient died in a few minutes. *Autopsy.*—Body presented all the appearances of one who had died suddenly while in good health. Brain normal, with slight congestion of the cerebellum. The right auricle was found to be greatly enlarged, and of a very dark, almost black color, so great was the venous congestion. On opening the right auricle the cavity was found to be almost completely filled with two separate fatty tumors; the largest was of oblong form and measured an inch and three-fourths in length by an inch and one-fourth in width, and about three-fourths of an inch in thickness; the smaller one was ovoid in shape, and was about three-fourths of an inch in all its diameters. The larger one was attached to the right over the entrance of the vena cava, and the smaller was attached to the left of the vena cava, and to the septum between the auricles. Both were easily detached without any injury to the wall of the auricle. On the under surface of the tumors there was adherent about two ounces of coagulated blood; and to the upper portion of the larger tumor there was adherent a semi-transparent gelatinous substance which extended into the vena cava about three inches, and was about one-third larger than a lead-pencil.

A New Operation for the Radical Cure of Hydrocele.—Dr. Bernard Bartow read a paper upon this subject before the Buffalo Medical Club, April 28, 1880. The operation consists of an incision from three to four inches in length, in the scrotum—in the centre of the hydrocele tumor—extending through the scrotal tissues until the sac is exposed. The loose connective tissue is then separated from the sac to the extent of about an inch on either side of the line of the incision, exposing about one-third the circumference of the tumor; the distended sac protruding into the wound renders this last step very easy of accomplishment. Into the most depending part of the tumor thus exposed, a fine trochar and canula are introduced, and the fluid is drawn off, the entire wound being left to close by granulation. It is intended that air shall not be admitted into the sac, and it is preferable to make the incision with antiseptic precautions, and to continue them during its subsequent treatment. Of the two cases where this plan was used, the first was a large hydrocele that had received no previous treatment, the second case being one in which repeated tapping had been performed. The clinical features following the operation were very similar to those following the injection of the sac with tr. iodine. At the end of nine months there was no sign of a return of the disease. Following the operation in both cases, the testicle was movable in its sac, showing that obliteration of the sac did not take place. The recommendation of this operation is based upon the fact that it is free from the dangerous constitutional disturbance which is liable to follow inflammation in an open serous sac—as in the case where a hydrocele is incised; and the prolonged suppuration attending obliteration of the sac by incision is superseded by that which would follow from a superficial wound only. By preventing access of air to the interior of the sac, the liability to suppuration within the sac is almost nil; this principal danger being avoided, the method would seem to possess the conditions by which inflammation could be excited with safety in the sac and surrounding tissues.—*Buffalo Medica Journal.*

The Microphone and Dreams applied to the Diagnosis of Disease in the State of Incubation, is the title of a paper by Dr. M. Macario, published in the *Nice médical.* The exaggeration of sound produced by the microphone is said to be so great that the steps of a fly sound like the galloping of a horse, and the author expresses the hope that some application may be made of the instrument in the future, in reference to medicine; his idea being that we may with its help succeed in hearing the sound produced by the molecular movements and in distinguishing between those produced in health and in latent pathological processes. If this hope were realized, we might be able to stifle and strangle in their birth a number of diseases which are now only recognized when their ravages are already far advanced. He has been led to think that this result may be obtained, by the fact that evidences of latent pathological work are sometimes obtained in dreams. Certain dreams, he claims, may be looked upon as precursory signs of an undeveloped malady still in a state of incubation. This fact is demonstrated by such examples as those of Arnaud de Villeneuve, who dreamed that he was bitten in the leg by a dog, and a few days later an anthrax developed at the same place. Galien speaks of a man who in a dream saw himself walking with a stone leg, and a short time afterward the same leg was stricken with paralysis. Hippocrates, in his *Treatise on Dreams*, says that imagining oneself crossing rivers, battling with enemies, gazing at armed men, hideous and terrifying objects etc., is the forerunner of madness. This is verified at the present day by many practitioners, who have made the study of nervous diseases a specialty. Sanguinary congestion and certain hemorrhages are frequently announced by peculiar and characteristic dreams. Other remarkable cases are cited to prove that if these dreams are repeated often, we may consider them as precursory signs of a more or less serious affection. Now, if certain dreams can make evident pathological conditions which are still latent, and which are working their way in the depths of the organs of the system, it is simply owing to the fact that a molecular movement imperceptible to our limited sensibilities is passing in these organs, and the writer asks, inasmuch as the microphone is to the ear what the microscope is to the eye, why may not we expect to obtain with it analogous results?—*Gaillard's Medical Journal.*

Dilated and Mobile Pupil in Epilepsy.—Dr. L. C. Gray draws attention to the diagnostic significance of a dilated and mobile pupil in epilepsy. He regards it as a symptom of importance, and states that by means of it he has been enabled to make a diagnosis in several instances where the history of the attack was uncertain. He describes it as a pupil which changes from contraction in a bright light to dilatation in a shaded light much more quickly than the normal pupil, sometimes instantaneously, undergoing the changes from dilatation to contraction with the same facility, and which is, moreover, moderately dilated even in a bright light. An examination of forty-nine epileptics was made at the Flatbush and other institutions, and in all but four of these the pupil had the characteristics described. These observations apply only to cases of functional epilepsy. The mobility and dilatation were usually in proportion to the inveteracy and violence of the disease, although not always so. The cases of *petit mal* exhibited this phenomenon in a marked degree.—*Amer. Journ. of Med. Sci.*, Oct., 1880.

A New Reagent for the Detection of Biliary Coloring Matter in the Urine.—M. Masset describes in the *Archives médicales Belges* a new method of testing for bile, which is calculated to be of service at the onset of certain diseases. Two grammes of the urine to be examined are placed in a test-tube, and acidified with two or three drops of concentrated sulphuric acid; a small crystal of *nitrate of potassium* is then dropped in in such a way that it reaches the urine at the bottom without touching the sides of the tube. If the proportion of biliary matter in the urine be large, its presence is at once indicated by the appearance of streaks of a magnificent grass-green coloration; on shaking the tube this coloration becomes uniform and of a deeper shade of green; it is unaffected by boiling, and remains unaltered for several days. If the quantity of biliary principles is extremely small, the liquid in a very short time acquires a pale green hue, which is as lasting as the deeper shades. This coloration is easily detected by holding up the tube between the eye and the light, or on looking vertically through the tube and urine against a white background. Normal urine so treated takes on a light rose-colored tint.—*Bulletin gén. de thérap.*, July, 1880.

Electricity in Lead Colic.—Dr. Rothe, of Alterburg, reports the following case: A man employed in a type foundry recently consulted him on account of obstinate constipation, which had lasted three days and was associated with severe colicky pains. Purgatives had failed to produce the desired effect. A hypodermic injection of morphine was immediately given, and an emulsion ordered containing ten drops of croton-oil to four ounces of castor-oil, a tablespoonful to be taken every hour. After a sleepless night the patient was found in the same condition. A rectal evacuation had not taken place. Several tablespoonfuls of the emulsion had been vomited. A new drastic purgative also produced no effect, and similar negative results attended other attempts to obtain an action of the bowels. Dr. Rothe then determined to use the faradic current to relieve the spasm and obtain peristalsis. One electrode with an olive-shaped point was introduced high up into the rectum, and the other armed with a rather large sponge was applied over the abdomen and to the lumbar vertebræ. During the ten minutes of application violent contractions of the abdominal muscles occurred, and the patient also complained of severe pains. They soon ceased, however, after discontinuance of the electricity. On the following morning the patient was found to be completely relieved of his former troubles, and stated that a very copious rectal evacuation had taken place very shortly after the use of the faradic current.—*Memorabilien Monatsch. f. prakt. Aerzte*, Aug. 31, 1880.

Flaccidity of the Iris in Real Death.—Mr. Joll, of London, draws attention to the fact that the condition of the iris furnishes a reliable means of determining the question of real or apparent death. In real death the iris is in a state of complete flaccidity. This can be easily shown by synchronous compression of the globe of the eye in two opposite directions, when the pupil will readily assume an oval or irregular shape, whereas in cases of apparent death no ordinary amount of compression in this manner will have the least effect in altering the usual circular form of the pupil. This sign is especially valuable because it is found before the cooling of the body, and before the supervention of rigor mortis. Mr. Joll states that the value of this sign was first pointed out by M. Ripault.—*British Med. Jour.*, Sept. 25, 1880.

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GEORGE F. SHRADY, A.M., M.D., Editor.

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HOSPITAL MANAGEMENT.

All such as are interested in studying the principles of hospital management will watch with interest the growing complications in the Guy's Hospital affair. From all appearances it is, if possible, farther than ever from any equitable adjustment of the respective rights and privileges of the medical staff and the governing board. The stand which was taken by the medical staff—perfectly proper, on the principle that anything pertaining to the medical management of the hospital should be left to medical men—has been not only yielded to the managers, but a virtual apology has been offered to them by some members of the staff for holding such opinions. There has been no doubt a great deal of indiscreet letter-writing in which passionate expressions have taken the place of calm reasoning, and in which motives rather than principles have been largely discussed, but an apology for wrong-doing in those directions was all that could have been reasonably required of dignified gentlemen. But we imagine that it will be hard for the profession to understand why, on the trivial pretence of preserving servile positions, of protecting what are thought to be the interests of a medical school, the medical staff should yield a principle that was practically unassailable, and should virtually acknowledge that even in the medical management of a hospital they have no rights. In all the history of hospital mismanagement, in the record of all the quarrels which have ever taken place between the medical and lay boards of such institutions, there is no more humiliating spectacle of abject truckling to expediency than is presented to the medical world by some of the medical staff of Guy's. The lay board in the hospital, taking advantage of the situation, have shown renewed courage in declaring that the power is entirely in their hands and that the staff must in future behave with becoming respect to such authority. Thus the matter stands at present, and the staff have the melancholy satisfaction of knowing that they have not only lost a grand opportunity of settling a great question, but have compromised their influence with their brethren to the extent of never being trusted again in any emergency requiring cool judgment, self-respect, and moral fortitude. There was no more favorable opportunity than has been offered by this discussion to open the eyes of the public concerning the objectionable features of the lay management of some hospitals, and to bring about the necessary reforms. But, for the present, such an opportunity has been lost to the profession by the surprising action of the medical staff of the hospital in question. It would have been far better for this staff never to have touched upon the question of rights, to have suffered their infringement in silence, than to have invited public discussion concerning them, only in the end to advertise a weakness to the world, which is the more deplorable because inexcusable. There is now a hope that the charter of the hospital may be altered to prevent too much lay interference in future; but what would have been comparatively easy before the back-down of the staff, will now be likely to be attended with great difficulty. The only hope now left to the friends of the sick poor, for whom the hospital was primarily intended, is that the staff will not destroy a last chance by another ignominious apology.

It was very unfortunate that the governors should have insisted in changing the nursing system of the hospital without consulting the staff, but still worse was it for the staff, after complaining, as it had a right to do, of such interference, not only to change its views, but to ask forgiveness for having held them.

PROGRESS OF PSYCHIATRY IN THIS COUNTRY.

In February, 1880, Dr. J. C. Shaw, Medical Superintendent of the King's County Insane Asylum, burned all the camisoles, wristlets, strait-jackets, and other forms of restraining apparatus in his institution. Dr. Shaw did not, in the Byronic matter, awake the next morning and find himself famous; but he did, nevertheless, perform an act which will make his name historic among alienists, since he now stands as the first American physician to do away entirely with mechanical restraint in the treatment of the insane.

The significance of Dr. Shaw's (in a very literal sense) burnt offering to psychiatry and liberty was very forcibly brought out at the meeting of the Society for the Protection of the Insane and the Prevention of Insanity, an account of which is given elsewhere in this issue. The remarks and discussion on that occasion tended, in general, to furnish the audience with a view of the condition of psychiatry in

Europe as compared with that in America. It was shown beyond all cavil that American insane asylums and the American methods of caring for the insane, are at present behind those of Europe. Some of the special deficiencies of our system mentioned were, the large asylum buildings, the lack of central supervision, the interference of politics with executive management, the too great use of mechanical restraints, and the absence of systematic employment of patients. It was because a radical method had been applied, in the King's County Asylum, for the relief of the last two deficiencies, that its superintendent received such prominent notice and commendation. But, though Dr. Shaw has done something for psychiatry and the insane, there is a great deal still to be effected. The sociologist in this country finds himself confronted with two indubitably established facts. The one is that insanity is increasing faster, proportionately, than the population, and faster probably than it increases in some, if not all, other civilized countries.

The other fact is that the management of the insane, as a whole, is worse here than it is in the leading European countries, and is eminently behind the age. This condition of things does not imply that much has not been done to help our insane, or that we have not humane and skilful alienists among us. But it does show that some further earnest work is demanded, and it is in response to such demand that the association has been organized whose recent meeting we chronicle. Radical reform can only come when the people see its need and call for it. There must, therefore, be organized effort to instruct the people, and this is one of the ends toward which the association in question intends to direct itself.

At the same time it must be shown in what particular ways a reform can be obtained, and upon this point nothing could be more wise or practical than the remarks of the Rev. Arthur Brooks in his plea for breaking up the present union of politics with the administration of charities. There are plenty of illustrations of the injuriousness of this union, but none more striking than the fact, which is currently reported, that one of the State Asylum superintendents has been working all the past summer to secure the failure of the investigation now being made by a Senate Committee into the condition of the state insane.

But while public feeling is being thus aroused and properly directed, something can meanwhile be done by urging all possible improvements in asylums as they now exist. This has been illustrated by the work of Dr. Shaw.

Taking it altogether, there is great reason to believe that we shall before long see much advance in the care and treatment of our insane. The interest in the subject is steadily increasing, and reaches both medical men and the laity. The National Association has an extensive and increasing membership of a character which commands respect, and insures a constant activity; and constant agitation means ultimate success.

ACTS AND ORDINANCES TO REGULATE THE SALE OF POISONS IN THE CITY AND COUNTY OF NEW YORK.

An Act, that of 1872, is in force, § 7 of which declares: "It shall be unlawful for any person from and after June 1, 1872, to retail any poison enumerated in Schedules A and B, as follows to wit:

"*Schedule A.*—Arsenic and its preparations, corrosive sublimate, white and red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia, and all other poisonous vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium containing less than two grains to the ounce."

"*Schedule B.*—Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton-root, cantharides, creosote, digitalis, and their pharmaceutical preparations; croton-oil, chloroform, chloral, sulphate of zinc, mineral acids, carbolic and oxalic acids, without distinctly labelling the bottle, box, vessel, or paper in which said poison is contained, Poison."

"The provisions of these sections shall not apply to the dispensing of poisons *in not unusual quantities or doses, upon the prescriptions of practitioners of medicine.* And nothing shall apply to, or interfere with the business of any practitioner of medicine who does not keep open shop for the retailing of medicines and poisons; nor with the business of wholesale dealers, except by § 7, and the penalties for its violation."

It will be seen by this act, if a physician prescribes unusual quantities or doses of poisons, the apothecary is called upon to put a poison label upon the bottle, box, or paper, etc., containing the medicine so prescribed.

It must be admitted that physicians sometimes order large doses of active medicine, generally by design, sometimes by mistake, and that the public is entitled to protection in this direction, and some pharmacists, instead of putting on a poison label, wisely and kindly use a cautionary one, viz.: "Use only as directed; Take care in measuring the doses; or, Use with care." In the German pharmacopœia there is a table A, of eighty-six medicines, designating the largest doses for an adult, which the physician must not exceed in his prescription when intended for internal use, unless he adds an exclamation point (!) as a sign to the apothecary that he is fully aware what he is prescribing, and has made no mistake; otherwise the apothecary is compelled by law to refuse to put up and dispense the prescription.

Would it not be well for our physicians to adopt a like method, and also to order labels : *To be used with care* ; or, *To be used only as directed* ; or, *Take care in measuring the doses*, etc.

Comparatively few mistakes are made by learned physicians and skilled pharmacists; still, a few do occur and create great excitement in the public mind. So great has this grown from late occurrences—notably one at Long Branch—that the Common Council of New York are, or were, on the point of passing a most mischievous ordinance, ordering every apothecary to put a poison label upon all prescriptions of physicians containing " arsenic, aconite, belladonna, conium, gelseminum, nux vomica, opium, hyoscyamus, stramonium, veratrum viride, and all medicinal substances composed of them, wholly or in part, or derived from them; corrosive sublimate, biniodide of mercury, hydrocyanic acid, all cyanides, oil of bitter almonds, oxalic acid, phosphorus, and veratria, and all compounds and preparations of these substances."

We have learned that the above list was given to the Committee on Law of the Common Council by a well-known physician, whose name often appears appended to certificates for proprietary articles, interviews with reporters, etc., etc. He cannot be accused of ignorance, but carelessness or mischief toward the Common Council and to the medical profession may be perhaps inferred. In the first place, many of the compounds of phosphorus, such as the phosphates of soda and iron, are almost inert, and the phosphites and hypophosphites, and the numberless syrups composed of them, are not poisonous. In the second place, it would be very difficult to kill any person with any preparation of hyoscyamus, except hyoscyamia. The same holds true of belladonna and conium. Digitalis, colchicum, and lobelia are far more dangerous. In the third place, the smallest quantities of the interdicted medicines must be labelled *poison* by the apothecary, from the thirtieth dilution of the homœopathist up; while physicians generally prescribe these medicines in such small doses that they are no longer poisons.

We understand that Dr. John C. Peters took the stand before the Law Committee of the Common Council that the ordinance was not only a reproach and injury to the medical profession, but was aimed in the wrong direction if it was intended to protect the public, as more poisons were dispensed in the shape of secret, proprietary, and patent medicines, than from physicians' prescriptions ; that even a celebrated soothing-syrup had caused death, and was generally supposed to contain morphine ; that almost all secret and patented cough-syrups contained opium in some shape ; that most of the hair-dyes contained lead and were poisonous, and under the latter should be enumerated all patented worm-lozenges, lung-balsams, blood-purifiers, cough-candies, carminatives, teething cordials — Godfrey's, Dalby's ; heart-correctors, cough-drops, worm-drops, invigorating drops, elixirs, including McMunn's, were poisonous. Dr. Peters insisted that all these patented and proprietary articles were more worthy of having poison labels upon them than physicians' prescriptions containing the same articles. Also very many of the pills, powders, etc., made by the great manufacturing druggists ; and last, not least, all the prescriptions which are duplicated by apothecaries without special directions from the physicians, which are even dispensed to others for whom they had never been prescribed.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 27, 1880.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

DR. CARPENTER reported, on behalf of the Miscroscopical Committee, that the heart presented at the last meeting by Dr. Briddon was the seat of fatty degeneration and that the deposit was calcareous rather than osseous. The breast, also presented by Dr. Briddon, was a specimen of ordinary carcinoma.

DR. SATTERTHWAITE presented a specimen of fibrinous pericarditis, cirrhotic kidney, and chronic diffuse nephritis, on behalf of a candidate for admission to the Society.

ATONY OF BLADDER—CONGESTED MUCOUS MEMBRANE.

DR. W. M. CARPENTER presented a section from the anterior wall of the bladder of a man, aged twenty-eight years, who had been under medical observation as a patient for nine days before his death in Bellevue Hospital. At the post-mortem examination the bladder was found overdistended with urine, containing about thirty-eight ounces of this fluid. The man was reported to have passed the normal quantity of water, and attention was not particularly directed to the bladder. On opening the latter and removing the urine, a condition of the mucous membrane was discovered which seemed to have a bearing upon the possible occurrence of cystorrhagia. The entire surface of the membrane was intensely injected. Dr. C. thought that, in case the bladder had been suddenly evacuated and the pressure of urine thereby removed from the injected vessels, cystorrhagia would have occurred. The patient, at the time of admission, was suffering from phthisis. His body presented a museum of pathological specimens. The lungs, too, contained miliary tubercles, and there was a cavity in the left apex. The liver was large and probably fatty. There was the large white kidney on both sides. The right of these organs was thickly studded with tubercles. There were no tubercles in the walls of the bladder. The urethra was not the seat of stricture, and there had been no purely mechanical impediment to the flow of urine. The ureters were moderately dilated, probably due to the setting back of the urine from the overdistended bladder. The urine was one-third albuminous. No examination was made for casts. The immediate cause of death was uræmic coma.

Dr. Post asked if atony of the bladder at that age was not a very unusual condition. Also if it were possible that a paralysis of a central organ could exist without a corresponding paralysis of the extremities.

Dr. Carpenter stated that he had seen retention of urine apparently from simple atony of the bladder, in a patient aged sixteen years. This condition existed a week, requiring catheterization during that period.

Dr. Post thought that such a case might be regarded as one of spasmodic retention, as occurs in hysterical females. In this connection he referred to a similar one which occurred to him while house surgeon of the New York Hospital. The patient was a female, who, if not relieved by catheterization three times daily would develop symptoms, which simulated those of peritonitis, for the relief of which blood-letting appeared to be the only remedy.

Dr. Carpenter remarked that there was no special nervous element in his case.

Dr. Sell referred to the case of a young married man, who was unable to pass his water in any one's presence, and when on jury duty would suffer from retention because he would be accompanied to the closet by an attendant of the court.

Dr. Satterthwaite remarked that the bladder was very often found full at a post-mortem examination. As he understood it, the point made by Dr. Post was whether there could be any paralysis of the muscular coat of the bladder without a general paralysis of the lower extremities.

Dr. Carpenter supposed it was well recognized that retention of urine was common when the bladder was simply overdistended.

Dr. Post remarked that such a state of things was due to atony, but not to paralysis.

Dr. Lange asked if the stagnation of blood in the mucous membrane of the bladder was due to the removal of the pressure of the urine or to inflammatory action.

Dr. Carpenter thought that it was from the removal of pressure.

Dr. Lange believed that the acceptance of such a view depended entirely upon the thickness of the walls of the bladder.

Dr. Briddon stated that this sudden removal of pressure from the blood-vessels and the consequent varicose condition thereby invited were, according to some authorities, the explanation for the shock which occurs when the overdistended bladder is suddenly evacuated.

THE PATHOLOGY OF DYSMENORRHŒA.

Dr. Tausky presented a specimen of dysmenorrhæl membrane discharged by a young lady aged nineteen years. She commenced to menstruate at fourteen years of age, and continued to do so regularly without discomfort until her seventeenth year, when she began to suffer from excruciating uterine pains. At each of these attacks she would pass membranes such as the one exhibited. He remarked that he had met with but one case similar to the above, and presented the specimen on account of its rarity. A microscopical examination would be made by Dr. Heitzmann.

Dr. Putnam-Jacobi remarked that the pathology of membranous dysmenorrhœa had received a great deal of light from the researches of Drs. George and Frances Haggan, of England, who published an article on the subject in the *Archiv für Gynækologie* some three years ago. They found in the uterine mucous membrane of all the mammalian animals which they examined, a "deposit" of embryonic tissue existing under the epithelium. To the formative activity of this tissue was due the development of the mucous membrane at the beginning of pregnancy. She had occasion to study it in the uterus of rabbits. A lesser degree of formative activity in this same tissue than is aroused in pregnancy provides for the production of the superficial layers of mucous membrane which desquamate in menstruation. In endometritis, as in other inflammations, this embryonic tissue was in excess—a fact which explained many, if not all, the symptoms of the disease. A continuous succession of stages might be traced from the thickened mucous membrane of ordinary endometritis to that degree of excess in the paroxysmal formative activity of the embryonic tissue, which led to the development of a membrane necessarily extended as a foreign body as soon as its growth was arrested by termination of the paroxysm.

The Drs. Haggan believed that the nervous influences presiding over that plastic process emanated from the same source in the case of the dysmenorrhœal and of the normal decidua, namely, from the ovary. Membranous dysmenorrhœa was a highly exaggerated endometritis, dependent ultimately upon a special form of ovarian irritation, in which the most characteristic function of the ovarian nerves was called into play by an abnormal instead of a normal stimulus.

Dr. Ripley referred to a case in his practice in which a dysmenorrhœal membrane was thrown off, and in which he dilated the cervix a week before the menstrual period, and applied to the mucous membrane of the uterus an eighty-grain solution of iodine. This plan of treatment resulted only in the prevention of the discharge of dysmenorrhœal membrane in the following menstruation. Dr. Sims had advised the application of strong nitric acid to the mucous membrane, but this advice was not followed.

Dr. Putnam-Jacobi remarked that, theoretically speaking, there appeared to be an impropriety in such a plan of treatment as carried out by Dr. Ripley. It seemed to her that an excessive development of the embryonic tissue would be invited thereby, and besides, in the pre-menstrual period such applications were apt to be followed by dangerous consequences.

Dr. Ripley replied that at the time he used the application he did not know that there were any settled views in regard to the pathology of the affection. In that particular case no bad result followed the application. He was not quite certain that there was any special danger in making such applications during the pre-menstrual week. On the contrary, he believed that the danger was especially great in making such applications the week after menstruation, as at that time the uterine mucous membrane was, so to speak, more exposed.

Dr. Putnam-Jacobi remarked that an extended observation in a large number of cases had proved that after the menstrual period the whole uterus was in a quiescent state. In this connection she referred to a case in which, by some misunderstanding as to the time of menstruation, she had made an application to the uterus a week preceding the period, and that metritis was the result. She was strongly convinced that the occurrence of many cases of metritis was due to the fact that the difference between making applications during the pre- and post-menstrual periods was not taken into account.

Dr. Ripley replied that it was a very common practice to dilate the cervix just before menstruation and make applications to the uterus, and that such a practice was not, as a rule, followed by bad results. In cases of sterility with narrow cervix, the latter was dilated with a sponge-tent, which was introduced during the pre-menstrual period and allowed to remain for some time in direct contact with the mucous membrane of the cervix and fundus. This latter practice had been adopted by the best men of the city, at least up to a very recent date.

THE TREATMENT FOR TAPE-WORM.

Dr. Tausky presented a second specimen, which consisted of the head of a tænia solium. The interest in the same centred in the fact that this part of the worm was, on account of its small size, seldom found in the stools. In connection with the specimen he described his plan of treatment for tapeworm as follows: three ounces of the pomegranate root is soaked for twenty-four hours in eight ounces of water. This was then boiled down to three ounces, to which were added three ounces of the etherial extract of male fern, one and one-half drachm of sulphuric ether, two drachms of fluid extract of valerian, one drop of croton-oil, and one and one-half ounce of honey. The patient then abstained from all food, save herrings and onions, and also from water.

Dose: One-third every half-hour, as soon as the patient felt intestinal contractions or colic, whether this was after the first, the second, or third dose. One ounce of castor-oil was administered hourly, in cold, black coffee, without sugar, until the worm was expelled. In case the vermicide mixture caused nausea, lemonade, ice-pills, or strong, cold, black coffee without sugar, relieved it. The preparatory treatment was a dose of castor-oil forty-eight hours before taking the worm-medicine, so as to empty the bowels thoroughly of fæces. Milk diet exclusively for twenty-four hours following the laxative, and the twenty-four hours before taking the mixture the patient abstained from food and drink, except that he occasionally took a little salad, made up of salt herring, onions, and garlic. After the worm was expelled, mucilaginous food only was taken for a day or two, and a starch and laudanum enema in case of tenesmus.

Dr. Sell remarked that he had had the same success with virtually the same kind of prescription.

Dr. Van Giesen asked if any of the members had had experience with the aspidium marginale in these cases. The herb belonged to the same family as the male fern, and was indigenous. He had used it in a single case, but did not succeed in bringing away the head, at least he did not find the latter. The time for collecting the aspidium was during the fall, just before the tops began to die. After allowing it to dry for a few weeks, it could then be treated the same as the roots of the male fern.

Dr. Carpenter called attention to a report on this drug made by a member of the State Pharmaceutical Association at the recent meeting of that body, as published in the Medical Record. The report was to the effect that the vermifuge was equally efficacious with the male fern.

Dr. Lewis Smith stated that it was the custom, in treating cases of tænia in the children's out-door department of Bellevue Hospital, to give them as large doses as usually prescribed for adults. He had never seen any harm following the practice. He thought that the usual dose as given to children was too small.

Dr. Briddon said that he never failed with drachm-doses of male fern. He usually administered the latter in an ounce of olive-oil. Forty-eight hours before the patient took a dose of salts and sennæ; for twenty-four hours before, beef-tea only; twelve hours before, a dose of castor-oil, and then the vermifuge the morning afterward.

HEART-CLOT AND SACCULATED ANEURISM.

Dr. Van Giesen presented a specimen thought to contain an ante-mortem heart-clot. He had not seen the patient during life, and the specimen was brought to him by Dr. Fulda, of Brooklyn, the attending physician. The patient, a man aged twenty-five years, first applied to Dr. Fulda, August 2d, for the relief of extreme dyspnœa. The latter was his only symptom. He had had a previous attack on July 4th, and also one seven years previously.

On physical exploration of the chest the apex-beat of the heart was found two inches below the normal level and nearer to the median line. There was a mitral murmur with various bronchial sounds over both lungs. Area of precordial dulness was very much increased. Dr. Sanford, who was called in consultation, detected an aortic murmur. The diagnosis was cardiac dilatation. The man died August 9th. A limited autopsy only was made. At the autopsy a heart-clot of considerable firmness, but with no prints of the valves, was found in the left ventricle. The mitral and aortic valves were insufficient, and there was a commencing sacculated aneurism of the ascending aorta.

ECBOLIC EFFECT OF STRYCHNIA.

Dr. J. Lewis Smith presented a specimen with the following history: On October 11th a plethoric and robust German woman, about eight months advanced in her first pregnancy, according to our reckoning, called at my office for treatment. She stated that her only ailment was numbness of the fingers of both hands, and a pricking sensation in them as if they were asleep. Her pulse was strong and regular, her features rather florid and of healthy aspect, and her temperature apparently normal. Her urine, obtained two days subsequently, was found free from albumen.

Two remedies were prescribed, namely: citrate of magnesia, on account of her plethoric state, although there was no constipation, and $\frac{1}{30}$ or $\frac{1}{32}$ part of a grain of strychnia in sugar-coated pill three times daily. On the following day the medicine was taken as directed, and the bowels were opened. She took three doses of the strychnia, with an interval of six hours between the doses, in all one-tenth of a grain. The following night was passed comfortably, the numbness and pricking of the fingers having ceased; but about eight o'clock on the following morning, before another dose of the medicine had been taken, unexpected symptoms of uterine contraction commenced. Several hours elapsed before I was called. The pains were different from those of ordinary labor. They were more persistent, so that nearly half the time her breathing was accompanied by a low moan. The pain at first had been felt in the upper part, or fundus of the uterus, near the epigastrium, but it gradually extended over the entire organ. It was not felt at all, or was felt but slightly in the back. The uterus, examined through the abdominal walls, seemed firm as if its muscular fibres were in a state of moderate tonic contraction, and the os uteri, examined per vaginam at different times through the day, was closed and uniformly rigid. The uterine contractions had no effect in dilating it.

At my first visit the pulse was natural and surface cool, but in a few hours the surface became hot, the face flushed, and the pulse rose to 108 per minute and was full. During this time of febrile movement there was occasional vomiting, and the entire uterus was tender on pressure. The symptoms, indeed, bore considerable resemblance to those of incipient peritonitis of mild form, but the temperature after the pain had begun to abate I found nearly normal.

In the afternoon of the 13th, being satisfied that the pains were not those of normal labor, I prescribed a mixture, containing the deodorized tincture of opium and camphor, but the doses were vomited, and therefore seemed to have little effect. The night of the 13th was passed without sleep and in pain, but early in the following morning I prescribed powders of sulphate of morphia, which were retained and in the course of a few hours produced entire relief of symptoms.

During the next twenty-four hours no pains occurred, namely, from the morning of the 14th to that of the 15th. The uterine tenderness gradually abated, the os uteri had apparently undergone no change, and it seemed probable that the full term of gestation would be completed. However, on the morning of the 15th the pains returned, but this time with more distinct intermissions, and normal in their nature, and in the following evening the child was born. Nothing unusual occurred during the labor, and the mother has made a good recovery.

The infant presented the appearance of prematurity, would not nurse from the nipple of the mother, but nursed from an artificial nipple (Neidlinger's) applied over that of the mother. It had no lividity, its respiration was normal, its cries strong. It had a scanty growth of hair, and its nails were developed. Its evacuations also were normal. But by the second or third day it began to be icteric, and before its death became much so, the urine producing a deep yellow stain in the diaper. In the afternoon of the fifth day it refused to nurse, and was perhaps somewhat weaker. It was not supposed, however, to be in any immediate danger, and it was as usual placed upon its side, at a little distance from the mother, in the same bed. After a little time the nurse examining it found it dead. The point of chief interest in this case was the apparent causative relation of the strychnia to the miscarriage. It would seem from this case that strychnia should, like large doses of quinine, be one of the forbidden remedies for pregnant women; and the interesting question arises whether nux vomica, now recommended by the highest authorities for the nausea of pregnant women, should not be used with caution.

There was nothing of special interest in the jaundice, as it is common in the new-born, especially the weakly and premature. The explanation of its occurrence, which I think is generally accepted by the profession, is that given by Frerich and others, namely, that its cause is not catarrhal, as in the ordinary form of icterus, but that it originates from the diminished fulness and tension of the blood-vessels within the liver consequent on ligature of the cord and the cutting off of the supply of blood through the umbilical vein. For, if immediately after birth the circulation be for any reason feeble, as in premature infants, and the tension of the blood-vessels within and around the hepatic lobules be diminished, a part of the bile produced in the hepatic cells would, by the law of diffusion, enter these vessels instead of the bile-ducts, and the presence of bile in the blood in notable quantity is all that is required to cause jaundice.

Permission was obtained to examine the heart and lungs of the infant. The heart seemed normal, there being the usual valvular spring of the foramen ovale. The left cavities were empty, while the right contained considerable dark fluid blood. The lungs were dark, collapsed, and non-crepitant. They resembled in appearance the fetal lungs, although the infant during its short lifetime had cried vigorously, and its respiration had been normal. It seemed that the contractility of the lungs had expelled nearly all the air which it had contained.

Dr. Putnam-Jacobi, in connection with the symptom of paræsthesia, as manifested in the patient, expressed the opinion that it was doubtless connected with the nervous phenomena of pregnancy. In other cases it was associated with a gouty diathesis, and simple anæmia; Dr. Putnam, of Boston, had presented a paper on this subject in which he had collected twenty-five or thirty cases of paræsthesia. He was unable to find the evidences of central lesion in any of them. Dr. Gibney had seen three similar cases and he did not believe that any treatment was available. A possible exception to this rule was that of a strong, robust man, who was greatly annoyed by paræsthesia of the ulnar aspect of the forearms. In that case actual cautery over the entire area of paræsthesia was attended with a good result.

Dr. Van Giesen stated that of four cases of paræsthesia he had seen within the past eighteen months, two were evidently due to malarial influences. Both were permanently cured by quinine and nux vomica. In the other two cases treatment was unavailable.

Dr. Briddon believed that the condition of paræsthesia was dependent upon some of the forms of toxæmia. He had found it most commonly associated with gastro-intestinal disturbances and in the rheumatic and gouty diatheses.

Dr. Putnam-Jacobi thought that strychnine was very liable, in the latter months of pregnancy, to invite premature uterine contractions.

Dr. J. C. Peters was accustomed to give from three to five drops of nux vomica thrice daily for the nausea of pregnancy. He had never seen any bad effects therefrom.

Dr. Ripley remarked that Ringer advised even smaller doses of the same drug for that symptom.

Dr. Peters believed that the doses thus advised were too small to be of real service.

ANEURISM OF MIDDLE CEREBRAL RUPTURING INTO THE LEFT VENTRICLE.

Dr. Ridlon presented an aneurism of the middle cerebral artery with the following history: Peter W——, aged thirty-nine years, Sweden, piano-maker, came under observation December 29, 1879.

Complains of pain and stiffness in back, and headache; feels strong and looks so; appetite good; sleeps well; pulse, 72; temperature, 98.2°; bowels constipated.

Has had rheumatism several times during last fourteen years; present attack has lasted nearly six weeks.

At 3 A. M., January 6th, after passing a comfortable night (the condition having remained unchanged up to this time), patient was found wildly delirious, and with great difficulty was forced back into bed. After an hour he became quiet and breathed heavily. At 8 A. M. he was comatose, breathing stertorously; pupils normal; pulse, 72, full and strong; urine drawn; found to be acid, specific gravity, 1015. Albumen, 15 per cent. No casts.

When seen at 2.30 P.M., respiration, 56; pulse, 130; temperature, 102.8° (axilla). The lines of the left face are less marked than those of the right. Has not moved hand or foot.

January 7th, 8 A.M.—No longer breathing stertorously; conjunctivæ sensitive. Pupils somewhat contracted. Facial muscles react to irritation. Has moved right hand. Choreiform movements of fingers most marked on right side. Respiration, 60; temperature, 101°. Heart-beats, 164. Cannot be counted at the wrist.

At this point it was learned from the patient's friends that sixteen days before he came under observation, following a severe attack of rheumatism, he had suddenly fallen down quite unconscious; that unconsciousness and delirium alternated for ten days. It is not known that there was any paralysis.

At 6 P.M. coma had deepened. Respiration, 48; temperature, 105.5° (axilla); pulse, 200 (?). He died half an hour later.

Autopsy twenty hours after death: rigor mortis well marked. Body fairly nourished. Both lungs firmly adherent all over. Hypostatic congestion exists. Lung-tissue does not sink in water. Heart hypertrophied throughout. Mitral and aortic valves thickened and slightly insufficient. Aorta somewhat atheromatous. Intestines bound down by old adhesions. Kidneys showed slight amount of parenchymatous nephritis. Liver large, fatty, soft, and congested. Spleen soft, pulpy, and of normal size.

The meningeal veins of the brain were distended. No signs of hemorrhage at either convexity or base. On section, the right lateral ventricle was filled with a soft blood clot which extended through the septum lucidum into the anterior horn of the left ventricle. The clot was most firm and darkest in the anterior horn of the right ventricle. Following the clot forward, in the anterior wall of the ventricle, between the anterior cornua and the fissure of Sylvius, was found a small firm mass.

After the anterior half of the right hemisphere had been macerated the arteries were drawn out. About half an inch from the beginning of the middle cerebral artery (right side), where it gives off its first large branch, in the acute angle formed by the artery and its branch was found an aneurism about the size of a white bean. It was ruptured at about the junction of its proximal and middle thirds, the proximal third being empty and collapsed, and the remaining two-thirds capping over a firm yellow clot which seemed of a size to fill the sac. No other aneurisms were found.

VENTRAL HERNIA CONTAINING HYPERTROPHIED OMENTUM.

DR. E. C. WENDT presented a specimen of the above, with the following statement: This case can claim no interest beyond that which naturally belongs to every rare pathological condition. The hernia was found as an accidental complication in an old man who died at the St. Francis Hospital from a disease which had no connection with its presence. The tumor appeared at the junction of the umbilical and right lumbar regions, and somewhat below the umbilicus. It presented the clinical characters of a lipoma, being soft, painless, and freely movable under the skin. Beyond slight mechanical discomfort it had never been the source of trouble to the patient. When the abdomen was opened at the autopsy, the hernial neck was found to be very narrow, and on one lateral half the omentum adhered to it. The hernial sac consisted of attenuated peritoneum with an abundance of subperitoneal fat. The omental contents of the sac differed from the normal omentum, in presenting larger fat lobules. Between the latter numerous adhesions also existed. The site of the hernia corresponded about to the lower linea transversa, but there was no apparent attenuation of the abdominal parietes.

MALIGNANT TUMOR INVOLVING THE UPPER JAW OF A HORSE.

DR. LIAUTARD presented a malignant tumor of the upper jaw of a horse, which was accompanied with a detailed written history: The specimen was obtained from a very valuable animal (Prospero) of great reputation on the trotting turf. The disease was diagnosticated by Dr. L., in May last, when the animal was condemned, but by a mistaken kindness of his master was allowed to die of starvation. Some time in April this animal was stabling in Philadelphia and was noticed to have a little swelling on the right side of the face, under the eye. This increased, and was accompanied by offensive discharge from the nose. He was then shown to a so-called veterinary dentist, who found and extracted a tooth supposed to be decayed, but afterwards found healthy. A favorable prognosis was given, but still the animal grew worse. The swelling increased and the discharge became more abundant and offensive. A veterinarian was then called to see him, who diagnosticated suppuration in the antrum, and trephined him. The tumor was then quite large, soft at spaces, and the opening through the maxillary bone was done with a single scalpel, showing how diseased it already was. At this time Dr. Liautard saw the animal and diagnosticated osteo-sarcoma of the face, and advised him to be destroyed accordingly. At the time when he was about being killed, a veterinarian of some reputation in Philadelphia and another pretended horse-dentist celebrity of New York who were present objected, as in their opinion the animal was suffering with decayed teeth only, and would soon recover if those were removed. Permission for extracting the teeth was granted, and the fourth, fifth, and sixth molars were removed. Only one presented a decayed spot. Then came another horse-dentist, and the horse was trephined on the upper end of the nasal bone through a portion of the turbinated bone, and then sent to the country at his birth-place to complete its recovery, which was at times reported as making fast progress. The animal died on the 22d of September, and the post-mortem proved that death had taken place by starvation, complicated by repeated secondary hemorrhage from the palatine artery of the right side.

The body was much emaciated, stomach contracted, and intestines almost empty, and presenting the usual appearances of death from starvation. The spleen, kidneys, and liver were healthy. Lungs generally healthy, a little emphysematous in the anterior lobe. Pericardium filled with serum. Heart pale, flabby, with post-mortem clots in both ventricles. Large blood-vessels almost empty all through the body. Ganglia of the abdomen and of chest infiltrated; they were saved for microscopic examination.

On removing the skin the tumor was found to be irregular in shape, soft in some places, hard in others. The cavities of the alveola were filled with new growths, somewhat harder, showing on their lower surface the marks of the lower molar teeth. The second cavity, from which a healthy tooth had been recently extracted, was filled with partly masticated food. The palate bone was diseased in its whole extent, and the mucous membrane of the region on the opposite side is separated from the teeth by an accumulation of pus extending more or less into the alveola on that side. Sections being made through the head a little on one side of the median line, showed the septum nasi healthy, and this being taken off, allowed a full view of the nasal cavities. On the right side, in the meatus, in the cavities of the turbinated bones, in the sinuses, were observed several malignant growths of various sizes, extending back into the fauces and closing them. A similar condition, though less marked, was also discovered on the left side.

The diagnosis of cancerous disease was then made, and was proved to be correct by a microscopical examination by Dr. Peabody.

Dr. Post exhibited two specimens, one of which consisted of a tumor of the cheek formed of two cysts, one over the other, and growing respectively into the skin and adipose tissue. A second specimen consisted of a cancerous breast, which presented a remarkable contraction of the nipple and an absence of lobular induration. Both specimens were removed by operation.

FIBRINOUS PERICARDITIS IN THE HORSE, WITH ENORMOUS EFFUSION, ASSOCIATED WITH PURPURA HEMORRHAGICA, AND FOLLOWING THE "EPIZOÖTIC" CATARRH.

Dr. Satterthwaite, in behalf of Dr. W. H. Porter, who was unable to be present, exhibited a gigantic heart with pericardial sac, both of which were covered with a most exuberant growth of villosities, constituting the condition known as "hairy heart."

The mare had been under the charge of Dr. Frank Walton, veterinary surgeon, and the history which he furnished was as follows: Gray mare, aged eighteen months, weighing about 1,200 lbs., was first seen October 11, 1880. She then had marked œdema of both hind extremities, and slight œdema of the fore ones. She had previously suffered from the "epizoötic," though mildly, and it was thought she had recovered. The visible mucous membranes at this first inspection were very much congested, and marked by numerous blotches, indicating extravasations of blood. Temperature, 102.4° F.; pulse, 44; respiration, 15. The animal was now eating well, and the bowels were regular. The symptoms, however, did not improve, and hemorrhagic spots were soon found on the inner sides of the thighs and under the skin in other parts. The diagnosis of *purpura hemorrhagica* had been made.

When next seen the temperature had risen to 104° F., and the pulse had fallen to 42; respiration, 15. The general condition had not improved, and there was a serous oozing from some collections of œdema on the extremities.

On October 15th the mare was found to be failing. The œdema had mounted to the body, and was apparent on the nose, where the characteristic line of demarcation between the serous collections and uninvaded tissue was well seen and sharply defined, as is usual in purpura. The respiration was now 25, and much embarrassed, owing to the external swelling. Temperature was 106° F., pulse, 50. The animal was greatly depressed and debilitated. On October 16th the swelling of the head had become so great that it was almost impossible for the respirations to be carried on. Accordingly, tracheotomy was performed (10 A.M.) by Dr. N. F. Thompson, veterinary surgeon. The asphyxiated condition was at once relieved, and respiration became almost normal in frequency. The appetite also returned. Digitalis was now administered to control the heart and remove the œdema.

On October 20th this object appeared to have been accomplished quite satisfactorily, so on that day the tracheotomy tube was removed. The condition of the animal seemed to be fairly good, though there was great exudation of serum from the posterior extremities, and some ulceration and even sloughing of the skin. This latter unfortunate condition progressed so that the lower parts of the extremities were simply covered with ulcerations. At this time the urine was examined, but though it contained the carbonate and phosphate of lime in abundance, together with some pus, there was no more albumen than would be accounted for by the latter.

The pulse now became very rapid and feeble (80), but the mare continued eating and walking about. Suddenly, at 11 P.M., she fell, and was found to have instantly died. A post-mortem examination was subsequently made by Messrs. Wallace and Frey, students of veterinary medicine.

On removing the sternum the pericardium was found firmly attached to it and to the sternal end of the ribs on the right side, leading at first to the erroneous supposition that it was a case of pleuritic adhesion.

Upon cutting into the pericardial sac it was found to contain an enormous quantity of slightly turbid serous fluid, ranging from nine to twelve gallons. This distended sac had displaced and compressed the right lung much more than the left. The whole inner surface of the pericardium was covered with a thick layer of villous projections on both visceral and parietal surfaces. To the naked eye the heart looked much like an enormous sponge that had been soaked in water. The layers of fibrinous material were neither very thick nor very firmly attached, which would imply that the disease had not existed a long time. The weight of heart with its contained coagula and the pericardium was nineteen pounds, an excess of ten pounds over the weight of a normal empty heart. Under the microscope the villosities were found to be partially organized and contained an abundance of crystals of a brown color, either in rhombic plates or in needles, which latter were often arranged in stellate fashion. The rhombs were regarded as hæmoglobine crystals and the imperfect rosettes as hæmatoidine. The *lungs* were normal, except for œdema and hypostatic congestion. Beneath the mucous membrane of the *stomach*, as well as in other organs, there were numerous hemorrhagic spots. The *spleen* was soft; so also were the *liver* and *kidneys*. These latter were almost diffluent, and on microscopic examination exhibited very granular epithelia, indicating parenchymatous difficulty such as is met with in all diseases where the blood is profoundly infected.

Dr. Satterthwaite observed that, apropos of the connection between epidemic diseases of the lower animals and man, a subject that was now attracting much attention, it was well to know that this disease was thought to be closely allied to another disease in the horse known as *scarlatina*. Indeed, several eminent English veterinary surgeons had thought it impossible always to distinguish between the two. Others again had regarded it as a carbuncular disease of the anthrax or charbon family. Since Copland, according to Williams—one of the most recent systematic writers on veterinary medicine—had stated that scarlatina originated in the horse and had been communicated from him to man and other animals, the disease was worth some serious attention. It could not be said, however, that there was any marked parallelism between scarlatina in the horse and in man.

Still, if we accept the description given by Williams, it would be observed that the petechial eruption, which later is confluent, corresponds to the human type; then œdema is common to both, and so are sloughing of the skin, rheumatism, heart complications, and extravasations of blood. The œdema, however, is not thought to be renal, and the disease is intermittent, or rather remittent, in character, having curious exacerbations. It is also thought to be non-contagious.

This particular disease was *purpura*, and it exhibited the characteristic appearances that have been described. The fibrinous pericarditis was thought to have been excited by the general blood disease.

In answer to a question Dr. Liautard stated that purpura hemorrhagica was a common sequel of the epizoötic and occurred generally as an evidence of a broken-down condition in horses that were kept at work during the progress of the disease. The purpura was the direct cause of death in the large proportion of those cases.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, October 26, 1880.

DR. R. F. WEIR, VICE-PRESIDENT, IN THE CHAIR.

PHARYNGEAL TUMOR (MYXO-SARCOMA).

DR. GEORGE A. PETERS read a paper on pharyngeal tumor, with the notes of four cases. (See p. 565.)

DR. T. M. MARKOE said he had always felt that there was one physiological objection to Trendelenburg's tube. The sensitive portion of the larynx was the orifice of the glottis, and that was the portion into which blood would trickle, create spasm, and delay the operation, and the tube did not provide against the occurrence of that accident. He had uniformly been pleased with the sponge in the throat as a protection against the descent of blood into the larynx.

DR. A. C. POST referred to two cases in which he used the sponge in the throat in tracheotomy *without* the tube, and the method gave results that were entirely satisfactory. The small quantity of blood which did get into the trachea could be readily removed, because there was no tracheotomy-tube to obstruct the manipulation.

With regard to the enucleation of tumors in the buccal cavity, he had had one case in which the growth involved one side of the soft palate, and he was able to enucleate it without difficulty.

DR. MARKOE, in confirmation of the enucleability of these tumors, cited a case in which Dr. Willard Parker, about twenty years ago, in the New York Hospital, removed one situated in the same region referred to by Dr. Post, and he was able to enucleate it without rupture of the sac. Dr. M. thought it could be laid down as a pathological law that these tumors, as a rule, are enucleable.

DR. MCBURNEY stated that he had used the original apparatus of Trendelenburg in two cases of thyrotomy and met with serious difficulties arising from it in both. In one case the expansion was so great that the rubber bag doubled over the end of the canula, and entirely obstructed respiration. In the other case the irritation of the trachea was so great, that it became necessary to remove the tube and proceed with the thyrotomy without any protection at all.

In most of such cases there was not sufficient room to use a very large apparatus, and it was somewhat hazardous to trust to a small sponge. Therefore it was desirable to find some means by which the trachea could be actually plugged without causing irritation. In Dr. Lange's case the trachea was plugged without irritation, and it was done by means of punk or amadou.

DR. LANGE remarked that this material swells when moistened, and that it could be wet and fitted before being applied for use.

DR. WEIR remarked that of these tumors presented in the paper just read, there were three varieties: 1, Palatal; 2, retropharyngeal; and 3, subtonsillar, and of these he thought that the last variety was the rarest. Some time ago he assisted Dr. A. H. Smith in removing a tumor that involved the soft palate, and afterward, in looking up the subject, he found a pamphlet written by Rouyer, in which eleven cases of the same variety were reported—tumors originating in the soft palate. Nearly all of them were glandular in nature, and were easily removed by simply dividing the mucous membrane and enucleating them with the handle of the scalpel.

About a year and a half ago Dr. Knight, of Boston, presented at a meeting of the American Laryngological Society a case of retropharyngeal tumor. His paper embraced some twenty cases of similar tumors, principally sarcomatous in origin. Most of these were enucleable, and displayed only a moderate tendency to recurrence.

With reference to tracheotomy, he yet doubted the innocuousness of this operation in such cases.

In the removal of palatal tumors he regarded Rose's method of hanging the head over the edge of a table as preferable to tracheotomy; and he thought that many of the retropharyngeal tumors could be cured by the same method, for it has been proved that the blood does trickle down the trachea, even where either Trendelenburg's tube or a sponge in the larynx is employed.

DR. POST thought one great objection to Rose's method, if the operation was a prolonged one, was the inability to keep up the anæsthesia.

DR. WEIR remarked that while the anæsthesia could not be maintained so perfectly as with the tracheal tampon and tube, yet the administration of ether could be, from time to time, renewed by the mouth without serious inconvenience.

DR. POST remarked that it was vexatious to be obliged to suspend the administration of the anæsthetic during an operation, and that probably, in most cases, the prolongation of the operation in that way added to its dangers.

DR. WEIR referred to an additional case in which the inflated portion of Trendelenburg's tube descended and projected over the end of the tracheal tube, and thus arrested respiration entirely.

DR. PETERS remarked it was exactly that difficulty which led him to make a modification of the instrument.

DR. MARKOE thought that Rose's position was suitable to certain operations in the buccal cavity, but believed it to be important to *support* the head in the pendent position, and not allow it to hang unsupported.

DR. POST preferred tracheotomy because of the non-necessity of suspending the anæsthetic during the operation.

DR. WEIR said that if McEwen's method was corroborated, the apparent necessity for tracheotomy would be somewhat modified, because this surgeon passed a moderately large tube through the mouth into the larynx. To this a flexible tube could be attached through which anæsthesia could be maintained as in the tracheal tampon.

Dr. Lange remarked it was believed to be possible that some of the retropharyngeal tumors originated in the thyroid gland from misplaced germs. With regard to the discomfort of position, Rose had proposed to introduce, after the patient had been anæsthetized, a rubber tube into the mouth merely, and administer as much chloroform as possible through that tube during the operation. To that end he used an apparatus specially designed for that purpose.

Dr. Markoe suggested that it might answer with chloroform, but not with ether.

FÆCAL FISTULÆ FOLLOWING THE USE OF THE ASPIRATOR.

Dr. A. C. Post narrated a case as follows: A young man came with three fecal fistulæ in the anterior wall of his abdomen, and gave the following history. Nearly two and a half years ago he was suffering from retention of urine arising from urethral stricture, and he applied to some person who called himself a surgeon and who attempted to perform perineal section, but did not succeed in getting access to either the urethra or bladder. He then aspirated; the point at which he introduced the needle was about half way between the pubis and the umbilicus, and, instead of drawing urine, he withdrew only fecal matter. Afterward he introduced the needle lower down and emptied the bladder. The result of the first aspiration had been a permanent fecal fistula. About a year subsequent to the aspiration some secondary inflammation developed which led to the formation of two other sinuses through which fecal matter had been discharged.

CARIES OF THE RIBS.

Dr. Post narrated a second case with the following history: A man presented himself at this clinic with a fistulous opening over the left sterno-clavicular articulation. When a probe was introduced it passed downward and outward about two inches, and then encountered rough bone—probably the first rib. It was the result of a blow received from a man's fist about one year ago. Recently an inflammatory swelling had occurred as low as the third and fourth ribs, and it had begun to soften at one point. He thought it probable that caries of several of the ribs would be found when it was opened. He regarded it as a rather formidable result to follow a blow from the fist.

FUNGOUS GROWTH AT THE UPPER PART OF THE NECK.

Dr. Post narrated a third case, that of a woman fifty-six years of age, who had a swelling at the lower part of the neck, evidently located in the thyroid body, and above that as high as the os hyoides, a fungous mass of the size of a hen's egg, which first appeared as a small swelling *nine* years ago, had gradually increased in size, and finally become ulcerated. Several of the lymphatic glands under the sterno-cleido-mastoid muscle were also enlarged; and that was the feature of the case which led him to regard it as an improper one for an operation. The disease seemed to originate above the thyroid body, and the question was whether disease originating above could extend downward and involve the body itself. The growth did not interfere with respiration.

Dr. Weir remarked that he saw Dr. Post's case of fæcal fistula, and it was extremely interesting from its rarity and on account of its treatment. He also referred to a case, recently presented to the New York Clinical Society by Dr. W. T. Bull, in which an abscess and death followed the use of a proper-sized aspirator needle, and the complication was attributed to the failure to keep up aspiration while the needle was being withdrawn. Dr. Weir had also since heard of a case in which death resulted in a similar manner, and yet this operation had been justly regarded as a safe one, it having been done in one case twice a day for a month.

CYSTS OF THE CHEEK.

Dr. Post presented a tumor removed from the middle of the cheek of a woman, thirty or thirty-five years of age. Externally there was a translucent swelling projecting from the skin which evidently contained fluid. Beneath it a hard mass could be felt, and after the tumor was removed it was found that the hard mass was a second cyst attached to the one that projected externally.

CARCINOMA OF THE BREAST.

Dr. Post also presented a mammary gland removed from a woman fifty-three years of age. The special point of interest was the extreme degree of retraction of the nipple. Although the breast was firm, it did not have any hard nodules so commonly felt in ordinary cases of scirrhus. One pathologist had recommended that an operation should be avoided because of the insufficiency of the evidence that the gland was the seat of malignant disease. Dr. Post, however, regarded the general induration and the deep retraction of the nipple sufficient to justify amputation and accordingly performed the operation, believing it to be necessary to remove the breast as early as possible if it was the seat of malignant disease.

The following was the report of a microscopical examination made by Dr. T. E. Satterthwaite: "The nipple was unusually retracted, and at its base, within the substance of the gland, some softening had taken place. From this point as a centre and radiating outward toward the periphery of the mamma were glistening cords, of a pearly transparent appearance, firm to the touch and creaking under the knife. From these large cords smaller ones were given off, which penetrated the gland-tissue and its enveloping fat, giving every portion of the breast a much firmer consistency than usual. The microscopical appearances were in no way different from those commonly observed in 'scirrhous carcinoma.' The disease, however, had commenced in the larger milk-ducts in all probability, and in this way the very great retraction of the nipple is accounted for. The epithelial corpuscles were not cylindrical, but more or less spherical."

The Society then adjourned.

Carrying out the Medical Law in California.—The State Board of Examiners at their August and September meetings reported the licensing of ten medical men under the law. They also reported the arrest of eight men who had been practising without a license. One of these ran an "anatomical museum." Three fines of $50 had been collected.

Correspondence.

THE SYMPTOMS OF INTUSSUSCEPTION.

To the Editor of The Medical Record.

Sir—In the last number of the Record (vol. xviii., No. 20, p. 552) the following passage occurs in the report of the proceedings of the Pathological Society, in a discussion upon the diagnosis of intussusception:

"A case of invagination had occurred a few weeks before the meeting, in which the whole question of diagnosis turned upon the existence of a tumor. An accomplished surgeon was called in, but because no tumor could be discovered he declined to operate. An autopsy of the child, a few days afterward, showed well-marked intussusception."

I desire to call attention to two serious errors in this statement. The gentleman making the remarks had evidently been misinformed. I did not decline to operate "*because* no tumor could be discovered," nor did the *whole* question of diagnosis turn upon the existence of a tumor. In truth, the *absence of a tumor* was, in my judgment, but an insignificant factor in the problem.

In cases of intussusception it is well known that the three prominent symptoms are vomiting, straining at stool, with the discharge of nothing but blood and mucus, and an abdominal tumor. With all three symptoms present a diagnosis is most easily made. With all of them *absent*, I am of opinion that a diagnosis is beyond human ken; and such was the condition of the little patient whom I saw, with another physician, who had himself grave doubts as to the nature of the trouble.

I declined to operate *because* there had been neither vomiting nor bloody stools since the first day of attack (two days previous), and *because the symptoms, since then and at the time of my visit, did not point sufficiently to obstruction to warrant laparotomy.* In this opinion the attending physician entirely coincided.

Had there been evidence of obstruction at the time of my visit I should have unhesitatingly advised and performed the operation, regardless of the question of the existence of a tumor.

As no surgeon would be justified in operating for stone unless he had himself recognized its existence, so should he decline to operate for intestinal obstruction, unless he be morally certain that such obstruction exists.

One other correction I would make in the doctor's remarks; namely, I am not "an accomplished surgeon."

S. Whitall, M.D.

NON-RESTRAINT OF INSANE AND DEATH-RATE.

To the Editor of The Medical Record.

Sir—In the number of the Record dated October 30, 1880, one of your correspondents, named "Querist," raises the question as to the influence of non-restraint or restraint on the death-rate. While acknowledging the value and pertinency of Querist's criticism, and believing that mechanical restraint is indicated in certain cases, still I must call "Querist's" attention to the fact that he has totally omitted to take into account what mathematicians call the "personal element of his equation." This, as Storer* has pointed out, is by no means inconsiderable, since, as one superintendent informed him, the death-rate could be legitimately altered fifty per cent. by simply calling the attention of the friends of dying patients to the fact that it would be better for them to die at home in the bosom of their families. An examination of the death-rate of any badly managed county asylum will show that it is less than that of many well-managed state asylums, simply for the reasons above given. These personal factors do not enter into the English statistics, because of the strict government supervision. Trusting this will satisfy Querist as to the reason for the lesser American death-rate,

I remain yours, etc.,
James G. Kiernan, M.D.

141 Second Avenue.

INTERMITTENT HEPATIC COLIC FROM GALL-STONES.

To the Editor of The Medical Record.

Dear Sir—I would like to add to the notes of the case reported under the above title on page 552 of the Medical Record, that the stools are always clay-colored, excepting when ox-bile was administered *per orem* (even then the change in color was not very marked). There was no perceptible change in their color after an attack of colic. Previous to the commencement of a paroxysm the distended gall-bladder could sometimes be easily distinguished below the margins of the ribs. The frequency of the paroxysms was decidedly increased by the use of Boldo, and the distress attending them was somewhat relieved by draughts of hot water rendered alkaline with bicarbonate of soda. The administration of ox-bile in doses of ten to fifteen grains thrice daily had no very decided influence upon nutrition.

The effect of boldo upon this case was really the most notable circumstance connected with it.

Yours very respectfully,
F. A. Castle, M.D.

New York, November 13, 1880.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 7, 1880, *to November* 13, 1880.

King, Wm. S., Col. and Surgeon. His leave of absence still further extended six months on account of sickness. S. O. 240, A. G. O., November 9, 1880.

Worthington, J. C., Capt. and Asst. Surgeon. Granted leave of absence for six months. S. O. 241, A. G. O., November 10, 1880.

Wood, M. W., Capt. and Asst. Surgeon. Assigned to duty at Fort Brady, Michigan. S. O. 201, Department of the East, November 12, 1880.

Satterlee, Richard S., Lieut.-Colonel and Brevet Brigadier-General, Chief Medical Purveyor, U. S. Army—retired. Died at New York city, November 10, 1880.

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* Insanity in Women.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending November 13, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Nov. 6, 1880.	0	18	100	2	13	83	1	0
Nov. 13, 1880.	0	21	102	3	11	77	3	0

Among the Delegates to the recent Episcopal Convention in this city there were ten physicians.

Lucretia Mott, whose death has been recently announced, was one of the founders of the Woman's Medical College of Philadelphia, the first college of the kind in the country. She was an earnest advocate for the medical education of women. She also wrote a book entitled "Advice to Medical Students."

Treatment of Voluntary Fasting.—A correspondent of the *British Medical Journal* writes that the use of a little chloroform in patients who refuse to eat or drink, will often dispel their obstinacy.

A Malaria stricken Town.—At Franklin Furnace, Sussex County, N. J., malarial diseases are so numerous that there are not enough well people in the village to nurse the sick. Most of the male population is idle, and the place has the appearance of a hospital. This was the state of affairs reported the second week of October.

Early Rising.—The *Lancet*, in discussing the subject of sleep gives the advice, as good as it is old, that people go to bed early and get up early. This is all very well, but it also recommends that a person jump out of bed as soon as he wakes, without any dallying. This is not so thoroughly commendable a practice. There are excellent reasons against a person's suddenly forcing his system from the oblivion of sleep into a full physical activity. Will not the *Louisville Medical News*, which has been defending candy and corsets so judiciously, say a word in favor of "a little more folding of the hands."

Quarterly Report of the National Board of Health for the quarter ending October 1, 1880. The Board announces that since its last report the following work has been accomplished: A report upon the size of sewers, by G. E. Waring, has been finished. A sanitary survey of the city of Baltimore has been made. The final report of Dr. S. E. Chaillé, regarding his work in connection with the Havana Yellow Fever Commission, is completed and awaits an appropriation from Congress for its printing. Mr. R. Pumpelly has been continuing his work of investigating the relations of different soils to drainage. Dr. G. M. Sternberg is now studying malarial germs, with particular reference to the alleged discoveries of Tomassi and others in this direction. Dr. C. Smart's investigations into the adulterations of food are so far advanced as to furnish proof that such adulterations do exist.

The Board has appropriated $500, to pay the expenses of a person, who is to proceed to London and confer with the Committee of the Royal College of Physicians engaged in the revision of the standard nomenclature of diseases.

During the past summer the Board has had its inspectors travelling through the south and investigating the sanitary condition of places liable to epidemics.

In the matter of maritime quarantine, there have been established three stations, respectively at Hampton Roads, Sapelo Sound, and Ship Island, for the detention and disinfection of vessels from infected foreign ports. These stations have given general satisfaction, except in the case of Ship Island. Here there has been some disagreement between the National and the New Orleans Health Boards. Some further disagreement occurred also between the National Board and the State Board of Health of Louisiana. It was in relation to an epidemic of a suspicious character that occurred at Point à la Hache, near the Mississippi quarantine. The disease was pronounced to be yellow fever by Drs. G. M. Sternberg, Bemiss, and Mitchell; it was considered to be a malarial fever by Dr. G. P. Davidson, of the State Board, and Dr. J. D. Bruns.

The expenses of the National Board for the past quarter were $49,921.53.

The U. S. Marine Hospital Ambulance-Steamer, J. M. Woodworth, boarded the bark "Dunrobin," which was flying a distress signal in our harbor a short time ago, quelled an incipient mutiny, captured a boarding-house runner's boat with seven deserting seamen, and took them back to the bark.

Treatment of Fetid Perspiration of the Feet.—Dr. Charles Ambrook, of Boulder, Col., writes: "As a recipe for 'fetid perspiration of the feet' seems to be in order, and as I do not remember seeing mentioned one that never failed in my hands, I herewith send it: a one per cent. watery solution of permanganate of potassa. Bathe the feet in it night and morning, oftener if necessary, even to every hour, letting the feet dry after each bath, without wiping. A stronger solution may at times be necessary, generally a weaker one will answer. The stronger the solution the greater the discoloration of the feet, but, as it is temporary, patients prefer it to the fetid moisture."

New Jersey Sanitary Association.—The sixth annual meeting of this association will be held in the city of Elizabeth, Tuesday and Wednesday, November 30th and December 1st, at Y. M. C. A. Rooms, Library Hall. The subjects to be discussed at this meeting are: Inspection of Buildings; Subsoil Drainage in Cities and Towns; Examination of Wells, and Control of their Use in Cities; Diseases of Animals in their Relations to Human Diseases; Drainage for Health, and the Power to Condemn Lands for this purpose.

A "Row" in the French Academy of Medicine.—It will be remembered that M. Pasteur has been making investigations into the pathology of chicken-cholera, and that he has announced the discovery of the "vaccine" matter which will prevent the disease. The method of obtaining this "vaccine," however, he has so far declined to disclose. The subject came up for discussion at the French Academy of Medicine a short time ago, and M. Jules Guérin sharply attacked Pasteur for his announcing a discovery and refusing to tell the secret of it. M. Pasteur retorted very hotly. His most offensive phrase was: "When in the name of clinical principles a man has proposed to aspire pus to the surface of wounds by means of an india-rubber cap, some tubes, and a pneumatic pump, he is capable of anything (*on est capable de toutes les audaces*), and finds the careful and correct experimenter, who will not announce his method to the world before being able to demonstrate it, singularly simple. This is a question of scientific honor. I shall not risk compromising mine by too hasty publication, for the satisfaction of gratifying the indiscreet and unhealthy curiosity of M. Guérin." To this M. Guérin essayed to reply, but was prevented by a motion to adjourn. The discussion, however, was continued in a warm and informal style after adjournment, and it culminated in what may be called a "row." M. Guérin sent in his resignation, and both parties began to make arrangements for a duel. Peace was finally restored, however, and an amicable letter has been sent by M. Pasteur to M. Guérin.

Treatment of the Insane in Massachusetts.—At a recent meeting of the Norfolk District Medical Society, the subject of the management of the insane was discussed. At the conclusion the Society adopted the following resolution: *Resolved*, That in the opinion of this District Society the present condition of the treatment of the insane, prior to their legal commitment to an insane asylum, deserves a very searching investigation, and the Society would report the subject as worthy the consideration of the Massachusetts Medical Society, either in the corporate capacity or by some competent committee to be appointed by its council.—*Bost. Med. and Surg. Journal.*

The New Health Regulations—Quarterly Meeting of the State Board of Health.—This meeting was held at Albany, November 10th, there being a full attendance of the members. The most important action taken was the adoption of a series of sanitary orders, resolutions, and ordinances for local boards of health.

These regulations are substantially as follows: Everything dangerous to human life or health is deemed a nuisance, and must be removed under penalty.

The particular nuisances are then enumerated: No privy vault is to be allowed within fifty feet of a well or spring. No offal or dead animals or refuse to be thrown in the streets, and all decaying vegetable or putrid matter to be removed from cellars on or before May 1st, with a penalty of twenty-five dollars for violation. No tanner, refiner, or manufacturer of gas, starch, leather, chemicals, or fertilizers to throw refuse in any natural stream of water. No impure fish, flesh, fowl, or vegetable, or anything for human food, be allowed within the city or village limits. The penalty for a violation is twenty-five dollars, in addition to a penalty for misdemeanor. Householders in whose dwellings a case of cholera, yellow fever, typhus or typhoid fever, scarlet fever, diphtheria, or small-pox is, shall give notice to the local board of health, and, until instructions are received, shall not permit any clothing or other property to be removed; physicians and attendants also to report to such board, and avoid exposure to the public of any garments or clothing about their own persons; that such occupants refrain from leaving their premises or changing their residence until all danger to the public health shall be over; that there shall not be a public or church funeral of any person who has died of scarlet fever, Asiatic cholera, small-pox, diphtheria, or yellow fever, and the family is required to limit the attendance and prevent needless assembling in the apartments where such dead person may lie.

Other regulations are promulgated regarding the offensive odors from manufacturing establishments, slaughter-houses, sanitary inspection of buildings, contagious diseases among animals, the sale of impure milk, and the registration of vital statistics. Proper rules are laid down in regard to all these points.

Resolutions urging the importance of vaccination were passed, of which the following is the first section:

Resolved, That this board would urge upon the medical profession in every part of the state the importance of a thorough prevention of small-pox by proper vaccination, and would appeal to physicians to influence families and others under their professional care to the prompt and faithful compliance with this important duty.

A resolution was adopted that a committee of three, of which the Attorney-General shall be chairman, be named by the President, upon the necessary further legislation deemed proper, for the better protection of life and health of the state. The Chair appointed Erastus Brooks and Charles F. Chandler. Erastus Brooks and Dr. Harris were appointed to attend the annual meeting of the American Public Health Association, to be held in New Orleans, December 7th. The board then adjourned to meet in New York on November 17th.

Fifty-Cent Doctors.—The practice of underbidding, among even regular physicians, is known to be prevalent in some parts of this city. A number of such cases have been called to our attention. One of these, sufficiently illustrative, is that of a man in very good circumstances, who had been accustomed to employ an up-town physician when he or any of his family was sick. For office visits he paid a dollar. Being of a thrifty turn of mind, however, he determined to do better, if possible, and, after a little inquiry, he found a down-town doctor who would charge him only fifty cents, including the medicines; so he made the change.

It is currently reported that there are a good many physicians who will barter their valuable experience for even half the above sum. It is not a very uncommon practice for persons who are aware of the elasticity of medical charges to go from one physician to another in order to find out who will treat them or operate upon them at the cheapest rate.

We make no special protest against charging small fees when the patient is poor, though it would certainly add more to the dignity of the profession if doctors would either charge respectable fees or make the case a charitable one. But the system of covert underbidding, the practice of quietly giving out notice that "fees at this office are only fifty cents" is unprofessional and degrading. It is the spirit of the tradesman, but made a thousand times worse, because the physician assumes to be moved by some other considerations besides those of profit and loss.

A Novel Treatment for Watermelon Seeds impacted in the Rectum.—Dr. James Oliver, of Athol, Mass., writes: "I have seen in the Record several cases reported of watermelon seeds impacted in the rectum. One would gather from these that it is of unusual occurrence. I passed several years among the Sea Islands of South Carolina and found it a very common trouble among the negroes during the watermelon season. They take the handle of a common tablespoon and clean each other out when the impaction takes place, rarely calling a physician.

"The operation subjects the negro to a good deal of chaffing, as his fellow negroes accuse him of eating his melons like a hog, seeds and all. So when a negro is 'dug out,' as they call it, he is shy for a time, as he becomes the subject of ridicule."

A Cheap Hypodermic Syringe.—Dr. John M. White, of Pleasant Ridge, Ala., writes: "A simple and cheap hypodermic syringe can be made by attaching a hypodermic needle to a rubber bulb. If it is necessary for hypodermic syringes to be graduated the above can be made in different sizes; or, if not, the injection can be measured in a minim measure. The advantages of this syringe are simplicity, cheapness, and durability."

The National Association for the Protection of the Insane and the Prevention of Insanity held a business meeting on the afternoon of November 11th, at which it was voted to appoint a committee to co-operate, if possible, with the senate committe, which is now investigating the state asylums.

In the evening a reception was held in a parlor of the Fifth Avenue Hotel, Dr. H. B. Wilbur, of Syracuse, presiding. In his opening remarks he said that, at a moderate estimate, there are 50,000 insane in the United States. The state of New York, having 5,000,000 of population, has 10,500. Half of the 50,000 are in state hospitals or asylums; about 2,000 are in incorporated or private institutions; about 7,000 are in city or county asylums, and about 16,000 are in county poor-houses or in the custody of friends.

Following the president, the Rev. Arther Brooks spoke upon the subject of the evils of the interference of politics with the administration of charities and correction. The arguments for separating politics from charities were presented with much force and eloquence. To administer charities and correction, he said, is the hardest kind of work, requiring the wisest and best training, and politics is not the school n which to fit men for this. Politics are more likely to make men insane than to cure insanity.

Dr. G. M. Beard gave a series of conclusions which he had arrived at from a visit to several asylums in Great Britain and Germany. The first was, that in the management of the insane Great Britain is ahead of all the world, with Germany close behind. In Scotland the insane are better treated than anywhere else. Second, some method of central governmental supervision of the insane is practised in those counries and France. The United States is alone of the hree nations in compelling its insane to depend on superintendents and local trustees. Third, in the best asylums mechanical restraints have been reduced o a small percentage, and the patients are employed at some kind of labor. The extent to which the insane are employed was almost incredible. He saw hem not only cooking and washing, and engaged in agriculture, but even in various trades. Fourth, paients in the best asylums are treated like children, with a watched and guarded liberty. Fifth, the best asylums are not enormous or imposing buildings, but series of moderate-sized cottages. It is believed and asserted that this spreading of the insane over arge areas gives immense advantages toward restoraion. Sixth, the methods which have proved most atisfactory in Europe can and will be introduced nto America, despite the present existent difficulies. The chief of these is the nature of our poitical system.

Dr. E. C. Seguin read extracts from the letter of an eminent German specialist, upon American insane asylums. The letter was published in the *Archives of Medicine* and has been already noticed in the Record. Its reading excited marked attention. Dr. W. J. Morton gave a very interesting description of his visit during the past summer to the insane colony at Gheel, and to another somewhat similar institution at Clairmont, France. He spoke favorably of what he saw at Gheel, but was most impressed by the institution at Clairmont, which he considered a remarkable one in every respect. It was composed of two farms of 1,500 acres each, with a central infirmary. Each farm was complete, having its own flour-mill, blacksmith's shop, etc., and live stock. The men are employed in agriculture, etc., and the women in laundry work. Even the engineer and fireman of the laundry were lunatic women. All were happy, laughing, joking, and discussing various subjects. No attendants were visible. The institution has 900 patients of all phases of insanity, and all of the lower classes, but not one was under any form of restraint.

The meeting concluded with some brief remarks from Mrs. Erminia Smith and the president. The attendance was large and much interest was aroused in the objects of the Association.

The Second Edition of Dr. G. M. Beard's work on Neurasthenia is to be translated into German by Dr. Neisser, of Breslau.

Small-pox has appeared in Brooklyn; diphtheria has also been quite prevalent there.

The Influence of Strong Winds on Diphtheria.—Dr. John Binnie, of Poynette, Wisconsin, calls attention to the influence of cold winds upon the increase of diphtheria. In his region the north and northwest winds, with a clear sky, have this particular effect.

Dr. Tanner and the Mean Weight of Man.—In relation to the now historic performances of Dr. Tanner in this city, the *Union médicale* gives some data from M. de Parrille regarding the mean weight of man. This weight is seventy kilos (a kilo is a little less than two pounds), which is constituted as follows: Muscles, 31 kilos; skeleton, 12.40; skin, 5; fat, 12; brain, 1.40; thoracic viscera, 1.20; abdominal viscera, 4; blood, 3. The total weight of the liquids is 40 kilos, and of the solids 30 kilos. In twenty-four hours the body loses 2 kilos, 700 grammes of water, 250 grammes of carbon, 25 grammes of nitrogen, and 25 grammes of mineral substances. In order that the receipts may balance the expenditures, there are required 500 grammes of dry aliment, 650 grammes of oxygen, and 2,300 grammes of water. An individual who ceases eating can only be nourished by his own tissues and his own fat; and supposing he be very fat, he has at his disposal about fifteen kilos, after which the human machine must become wasted and the subject dies. It results from the above figures that the daily physiological loss in carbon and nitrogen is about 300 grammes. In 15 kilos we have fifty times 300 grammes—*i.e.*, absolute exhaustion will not take place before fifty days, if we admit that 15 kilos have to be expended, which is a somewhat high figure. Dr. Tanner thus nearly approached the theoretical limit. It is said that he lost thirty-two pounds during his fast, which is above fifteen kilos. If we add to this some kilos due to excess of water, we find the real *déperdition* agreeing pretty nearly with the theoretical *déperdition.*

Thus the experiment was rigorously possible, supposing the constitution of the subject admitted of it.

Pleasant for the Children.—A reviewer in the *Louisville Medical News* discourses as follows regarding certain opinions of Dr. Rumbold: "Candies, cakes, and pastries should be prohibited, says Dr. Rumbold, and in this advice he is sustained by popular prejudice and the common voice of the profession. On this point experience has convinced us that Dr. Rumbold is utterly, totally wrong. The natural appetite is seldom a false guide in diet, either in sick adults or children. . . . The craving for candies, cakes, and pastries, as well as for fruits, is natural, physiological, and should be gratified. If such appetite is excessive and excludes totally meat diet, then the ferruginous and bitter tonics, and sun and air, and not deprivation of one class of food and compulsion of the other, are the proper measures for the welfare of the patients."

Burning of an Insane Asylum.—The Insane Asylum at St. Peter, Minn., containing 650 patients, caught fire from some unknown cause during the night of November 15th. The loss of life is stated at from three to fifty, but no reliable reports have been received up to the time of going to press. The damage to the building amounts to $200,000, the north wing in which the fire originated being destroyed. The structure occupied ten years in building, and was completed three years ago at a cost of $500,000.

Music as a Therapeutic Agent.—The case quoted by *The British Medical Journal*, in which Dr. Francis, of this city, saved the life of an apparently moribund lady by playing to her on the banjo, has called out further communications on the subject of the therapeutic value of music. Dr. G. Herbert Lilley writes that he is a believer in the efficacy of this agent, and that he published a pamphlet early this year entitled "The Therapeutics of Music." He was not the first to write on this subject, however. In 1803 Dr. Louis Roger, of Montpelier, published a treatise entitled, "Traité des effets de la musique sur le corps humain;" and in 1874, Dr. Chomet wrote on "Effets et influence de la musique sur la santé et sur la maladie."

Should music after all become more popular than pills in the treatment of disease, the physicians of this city at least would no doubt be fully prepared for the change. Very many of the medical men of the city have fine musical accomplishments.

A Homœopathic College in England.—Efforts are being made among the English homœopaths to start a college of their own. Owing to the smallness of their numbers, however, and private dissensions, the effort is not likely to succeed.

Fuchsine in the Treatment of Bright's Disease has been adopted in some of the hospitals of Italy. It is given in doses of grs. viij. to ʒ ss. t.i.d. The effect is to color the whole digestive tract, deepen the color of the blood and of the urine. The albumen is then reduced in amount, and the symptoms generally improve. In cases where it does not avail, it is observed that there is no coloration by it of the urine. In this case some obscure alteration in the action of the kidney must be admitted.—*Cor. Chicago Med. Journ. and Exam.*

General Practitioners and Specialists.—Dr. George Johnson, at the introductory address of the King's College Medical School, said some pretty severe things regarding the abuses which had grown about specialism. After referring to the indiscriminating way in which the public often looks at the matter, he related the following anecdote of Dr. Latham: "Dr. Latham, as you are aware, was a very eminent, learned, and accomplished physician of St. Bartholomew's Hospital, but he had published more on the diseases of the heart and lungs than on any other subject. A patient of his, who had recently recovered from some pulmonary affection, one day said to him: 'I feel that as regards my lungs, I am quite well, and now I think of going to consult Dr. Watson about my general health.' To which Dr. Latham replied: 'Yes, I see—in your estimation Dr. Watson is an architect, and me, I suppose, you look upon as a bell hanger.'" Dr. Johnson advised the students to be architects, learning at the same time how to hang a bell.

The Taste of Chloral is very disagreeable to many. It is said to be disguised by administering it in syrup of gooseberries, with the addition of a drop of chloroform to each grain of chloral.

Hydatids in the Bladder.—Dr. J. A. McKinnon, of Selma, Alabama, writes: "I reported a case in the *American Medical Weekly*, Louisville, Ky., "in 1874 or 1875. The purport of it, according to my recollection, was a case, when I first saw it, that ha every indication of cystitis with great thickening o the walls of the bladder. Frequent micturition caused my patient to exclude herself from society for two years before a correct diagnosis of her case was formed. She was becoming prostrated from her constant dysuria, and, in order to give her quietude, I attempted to introduce a Syme's catheter to be retained during the night, but, meeting wit an obstruction in the bladder and by manipulation with catheter finding that she was insensible a to the point of the instrument, I concluded that hydatid formation was present, and designed at onc to have it expelled if possible. I would say her one of the strongest arguments in my own mind, a the time, of hydatid formation was, when force wa used to push the instrument farther, a small amoun of fluid escaped and no blood.

I injected into the bladder two drachms of liq sodæ chlor. (French preparation). In about an hou violent spasms of the bladder occurred, the urethr dilated, and there was expelled into the vessel abou a pint of hydatids. The shape and attachment o these resembled the cactus; the sacs were transparent and well defined. There was but slight hemorrhage. This I attributed to the forcible distentio of the urethra. It is now over five years since thei expulsion, and up to this day my patient has had n more inconvenience with her bladder.

Fortunately my case was a female, and she is well this might not have been if it had been one of ou own sex.

Hospital Sunday in Philadelphia.—A meeting professional and business men was recently held i Philadelphia for the purpose of inaugurating th observance of a "hospital Sunday" in that city. committee was appointed to arrange the matter, an it is probable that eventually a permanent association will be organized.

The Medical Library Journal is the title of a other new medical journal published monthly i Boston. It appears without a salutatory, and th name of its editor is not given. It is to be devote chiefly to the reviewing of books and literary notice The contents of the first number are excellent.

Original Lectures.

ON THE

PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.*

By ROBERTS BARTHOLOW, M.D.,

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(Special Report for The Medical Record.)

Lecture II.

THE ANTAGONISM BETWEEN OPIUM AND BELLADONNA, CONTINUED.

Mr. President and Gentlemen—My first lecture was occupied chiefly with a historical review of the doctrine of contraries, from the time of the aphorisms of Hippocrates to the time of Bichat. I then traced the modern revival of the subject, in the doctrine of antagonisms, from the indignant protest of Bichat against the absurdities and inconsistencies which had so long prevailed in the world of therapeutics, down to the latest investigations and discoveries which had been made in this field. I showed that Magendie was the first physiological experimenter, and that one of the most brilliant results of his studies was the discovery of strychnia as a tetanizer against paralysis—the first application of a remedy as an antagonist to a diseased state. (In this way Dr. Bartholow continued until he had given a complete and detailed outline of the previous lecture; when he went on to speak as follows in regard to the antagonism between opium and belladonna:)

A review of the fifteen fatal cases in which the antagonistic drug was the principal agent employed in the treatment diminishes very greatly their importance as evidence against the existence of such an antagonism. From a consideration of these cases we may safely conclude that where, in any instance, the use of the antagonist fails to counteract the effects of a poisonous dose of its opposite, either (1) the toxic dose has been excessive, (2) that it acted so long in the system that the tissues could no longer respond to the action of the antagonistic agent, or, (3) that the antagonistic action was defeated by the failure of some vital organ.

In eleven of the cases referred to the treatment was inefficient; in six, but a single injection of the antagonistic agent was given, and in all the proper quantity required was not stated. In two of the fifteen, on the other hand, the antagonist was given in excess, and there can be no doubt that death was really due to the preponderating influence of the latter. In six the patients were already in a pathological condition; so that in these the doctrine is not in the slightest degree invalidated. If, therefore, in the series of fifteen cases, all the sources of fallacy are removed, the amount of evidence remaining is so trivial as to be scarcely worthy of consideration, and so preponderating are the examples of success, that it must be admitted that there is a high degree of certainty in the antagonistic application of opium and belladonna.

The next point to engage our attention is the necessity of determining that the amount of poison taken in the successful cases was sufficient to constitute a lethal dose. This is a very difficult matter, for comparatively small doses of opium and laudanum have sometimes proved fatal, according to Taylor and other reliable authorities; and, on the other hand, no less than eight ounces of laudanum have been taken without injury. In one instance a drachm of the extract of belladonna did not prove fatal, while in another two grains of atropia destroyed life. Harley has collected a number of cases in which the ordinary lethal doses did not prove fatal, notwithstanding the fact that no antagonist or other efficient means of treatment had been employed. Consequently it becomes necessary to look into the one hundred and six successful cases, and see whether in all a really lethal dose was taken. Still, the antagonism may be admitted to exist if well-marked symptoms caused by one are removed by the other. Among them was one case where thirty grains of crude opium were taken, another in which an ounce and a half of laudanum, another in which from twelve to fifteen grains of morphia, another in which five grains of morphia, another in which six grains of morphia, and another in which a teaspoonful of belladonna liniment, were taken. In all but two we find that lethal doses were undoubtedly taken, and hence in this series of cases are fulfilled the necessary conditions for determining the antagonism.

A source of fallacy in estimating the validity of the antagonism in these cases is the fact that in the greater number of them various approved agents, such as emetics, the stomach-pump, faradization, ambulation, flagellation, etc., were made use of in addition to the antagonist. The state of the pupil, the phenomena of respiration, and the action of the heart, however, showed conclusively the action of the antagonist in them all. Very often in such cases the protracted efforts at resuscitation are injurious. Dr. Johnson, of Shanghai, China, quoted in my last lecture, says that when the system is fairly under the influence of atropia, with the respiration tranquil, however slow it may be, it is only injuring the patient to resort to artificial respiration. The violent measures which are frequently resorted to, such as ambulation and flagellation, sometimes quite exhaust the remaining strength of the patient, and, in certain instances, there can be little doubt that they have really been the cause of death.

Let us now examine the evidence in opposition, based on experiments upon animals. It is unfortunate that the results of the first of these experiments, by Brown-Séquard, Bois, Harley, and others, were vitiated by the fact that the observers did not first determine the exact lethal doses of the drugs. In 1866 Erlemeyer published a series of researches in which for the first time the nature of the antagonism between morphia and atropia was determined in animals. This he conclusively demonstrated to exist in their action upon the brain, pupil, heart, and respiration, and he also showed that the two agents were much better borne by the system when given in combination than separately. Somewhat the same results were obtained by Harley, who thus formulates his observations on dogs: "1. Belladonna, when administered simultaneously with opium, more or less completely prevents nausea and vomiting, and when given previously, entirely prevents these effects. 2. Whether given previously, simultaneously, or subsequently, atropia completely counteracts the respiratory restraint on the free action of the heart, which is so prominent an effect of the operation of opium. We can wish," he goes on to say, "for no more perfect an illustration of the beneficial influence of a medicine under suitable conditions than that afforded by the simple and direct action of atropia in relieving the impending syncope which often persists for many hours after a dose of opium. . . . Whilst the spinal effects of opium on the muscles of organic life are thus counteracted by the stimulant action of atropia on the sympathetic, the cerebral and anæsthetic effects are intensified and prolonged by belladonna, and hypnosis is converted into narcosis."

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* Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons, New York.

In 1870 Koning published some results of experiments on animals which led him to decide adversely to the existence of the antagonism between opium and belladonna, notwithstanding that he noted the opposing influence of the drugs upon the heart, respiration, and pupil. In 1873 Fröhlich experimented upon cats and frogs, and although he observed decided points of opposition between the agents, he found that the antagonism was not sufficient to prevent death when lethal doses were given. In 1874 the report of the committee of the British Medical Association, of which Prof. J. Hughes Bennett was chairman, appeared. The committee took extraordinary pains to determine whether or not the supposed antagonism really existed, and the important conclusions at which they arrived after their experiments, which were mainly conducted upon rabbits, were as follows:

"*First.*—Sulphate of atropia is physiologically antagonistic to meconate of morphia within a limited area.

"*Second.*—Meconate of morphia does not act beneficially after a large dose of sulphate of atropia, for in these cases the tendency to death is greater than if a large dose of either substance had been given alone.

"*Third.*—Meconate of morphia is not specifically antagonistic to the action of sulphate of atropia on the vaso-inhibitory nerves of the heart.

"*Fourth.*—The beneficial effect of sulphate of atropia after the administration of large doses of meconate of morphia is probably due to the action sulphate of atropia exercises on the blood-vessels. . . . It may also assist up to a certain point, not precisely fixed in these experiments, by stimulating the action of the heart through the sympathetic, and obviating the tendency to death from deficient respiration observed after large doses of morphia."

In 1876 experiments were made by Corona on dogs and cats, from which he arrived at the conclusion that a partial, but not a therapeutical antagonism existed between opium and belladonna; for while the poisonous effects of morphia might be overcome by the administration of atropia, the reverse of this was not true. In this opinion Corona stands alone. In 1877 Dr. Hans Heubach also published the results of a series of experiments upon animals, made at Binz's laboratory, at Bonn, and his conclusion was that a limited antagonism existed between the two agents in their action upon the cardiac and respiratory organs. All the experiments on animals have been singularly uniform in their results, however the interpretation of the facts thus demonstrated by the various observers may differ; and if the lethal effects be omitted from consideration, they are certainly of great value in the elucidation of the antagonism of opium and belladonna on man, for they successfully demonstrate not only the nature of this antagonism, but the method of its production. We find, then, from these experiments also, that the two agents are antagonistic on the pupil, the respiration, and the action of the heart.

We may now proceed to the investigation of the nature of the antagonism as it exhibits itself in man; and, in the first place, it is necessary for us to form a definite conception of the physiological effects of the two agents. What is the action of each, in what respects do their effects agree, and in what do they differ? The action of each in full and lethal doses must therefore be understood. When a full dose of opium is taken, drowsiness (in some subjects persistent wakefulness is noticed) ensues, the pupils contract, the tongue and throat become dry, the appetite fails, constipation results (from diminution of secretion and impairment of muscular power in the walls of the intestines), the heart slows, the respirations become less frequent, the urine becomes scanty, and is passed with difficulty, and the skin is covered with a profuse perspiration. When a lethal dose is taken all these effects are intensified. The patient passes into stupor, and from thence gradually sinks into a state of coma, from which no kind of irritation can arouse him; the pupil contracts to a pin's point; the conjunctiva grows insensible; no reflex action can be set up by irritation of the cornea or fauces; the respirations become stertorous, and fall to six, four, or even two per minute; the pulse is weak, and may be either slow, or rapid and irregular; the skin is covered with a clammy sweat; the countenance is sunken, and may be either pale or livid; the ears become purple, and the back of the neck a bluish black from the ecchymoses which occur; the extremities grow cold, and death occurs by failure of the respiration.

When a full dose of belladonna is taken, the mouth and lips become dry, and there is difficulty of deglutition, fulness of the head, vertigo and tinnitis aurium; flying pains through the head and elsewhere ensue, and there is marked excitement, great volubility, and a busy delirium, in the hallucinations of which the individual is apt to imagine himself pursuing his ordinary avocations; the pupils are widely dilated; the heart's action is quickened, and, though there is at first increased arterial tension, this afterward diminishes to below the normal standard; the respirations are increased; the bowels are usually relaxed; there is muscular inco-ordination; the face is flushed, and frequently a scarlet efflorescence spreads over the skin, and the urine is passed with difficulty. When a lethal dose is taken the same symptoms are increased in intensity: vertigo quickly comes on; the vision becomes dim and uncertain from the extreme dilatation of the pupils; there is acute and violent delirium succeeded by coma; the pupils dilate until nothing of the iris can be seen; the mouth is utterly devoid of moisture, and the tongue lies in it shrivelled and dry as a bone; the flush of the face is succeeded by a deadly pallor; the pulse and respiration are very rapid; the temperature rises; the increased arterial tension is followed by paresis of the vessels, rendering the pulse weak and irregular, and death takes place from failure of the heart and lungs.

In man it is found that there is a distinct antagonism between the two agents in their effects upon the brain, the pupils, the stomach, the lungs, the skin, and the heart. When they are administered in proper doses together the result is a calm and apparently natural slumber, as is shown in the case reported by Dr. Legg, where the patient, a boy five years of age, swallowed a mixture of equal parts of opium liniment and belladonna liniment. The same thing was observed in a case treated by Dr. Mussey, of Cincinnati, and myself. There the patient was a boy of eight years, who swallowed by mistake an anodyne application for earache, containing two grains of morphia and a grain and a half of atropia. We found the pupils fully dilated and the face flushed, with the presence of active delirium. Afterward a state of sopor set in, as in Dr. Legg's case; but, as the respiration was full and rhythmical, and the pulse regular and strong, we determined to await the result without attempting any interference. We were both perfectly agreed as to this being the proper course under the circumstances, and the sequel perfectly justified the view we had taken of the case. Another case, in which opium and belladonna were taken together by accident, is reported by Dr. Cotter. A young lady swallowed a portion of a liniment containing twelve grains of opium and twenty-five grains of extract of belladonna. As in the other two cases, the effect of the belladonna largely preponderated at first, but afterward the stupor of opium, narcotism came on. Still later there was a return of the excitement and delirium caused by the former, and then, finally, sopor succeeded again, from which she finally awoke relieved. Such being the results of the accidental taking of the two agents conjointly, let us next inquire what the clinical facts of the case are.

Mitchell, Morehouse, and Keen conclude that "the headache and phantasms of atropia are certainly thus controlled (by morphia), as well as the partial deafness and visual defects which in high doses it occasions. On the other hand," they continue, "when morphia has been fully used, the drowsiness and stupor, which are the best tests of its power, disappear before the influence of atropia. . . . . Perhaps the most peculiar cerebral symptom of atropia is its tendency to cause phantasms and illusions. We found, under doses of one-twenty-fifth of a grain, these were common, and in some men could always be brought on. . . . . This condition was singularly subdued by morphia. Drowsiness caused by morphia was as surely lessened or destroyed by the counter-agency of atropia; and, in fact, atropia given alone and in full doses is very apt to cause a restless night to follow, so that it is assuredly in no sense a hypnotic."

Harley strongly insists on the modifying action which opium has upon the cerebral effects of atropia; yet, strangely enough, he does not regard the effects of the two upon the brain as antagonistic, but as synergetic. Yet in his observations we find the same results that were obtained by Mitchell, Morehouse, and Keen. The fact is that professional opinion is no longer divided on this point, and at the present day opium and belladonna are frequently prescribed together in order to get hypnotic effects which are not attainable by either alone.

The results of clinical experience on man have been confirmed by observations on the lower animals, so far as they are applicable; but the effects of opium and belladonna on the brains of animals can be compared with those upon the brain of man only according to the extent of development, for the human brain must necessarily be affected less severely and in a greater variety of manifestations on account of its more complex structure and higher physiological development. In this difference of development seems to lie the explanation of the fact that morphia and atropia when given together have so much greater toxic effect upon animals than on man. In regard to this Bernard says that from the physiological point of view the experimental study of the organs of sense and of the cerebral functions must be made on man necessarily, because on the one hand man is above the animals in respect to those faculties of which they are not possessed; and on the other, animals are unable to indicate the nature of those sensations of which they may become conscious. Hence my conclusion is that, as respects the brain, opium and belladonna exert opposite actions.

The result of their combined action, when the quantity of both the agents is large, is sopor, which deepens into coma. When administered simultaneously, if the effect of the belladonna preponderates, periods of excitement and delirium will alternate with relatively shorter periods of sopor; while the more opium preponderates the less excitement and delirium will there be, and the longer and more profound the sopor.

No little interest and importance attach to the condition of the pupil in cases where one of the agents is administered for the purpose of antagonizing the other. Graves, as is well known, first proposed to use this antagonism as a guide for treatment. As a general rule, opium undoubtedly contracts, and belladonna dilates the pupil; but there are occasional exceptions. It is extremely important to determine, therefore, whether this indication can or cannot be depended upon. In number fourteen of the unsuccessful cases, notwithstanding the fact that a large amount of morphia was given to counteract the effect of the belladonna which had been taken, the pupils remained dilated. In one of the successful cases of joint administration of opium and belladonna, on the contrary, where the other effects of the latter greatly preponderated, the pupil continued minutely contracted. In some instances, also, the pupil has been known to become contracted in belladonna-poisoning and dilated in opium-poisoning.

Though such cases are certainly exceptional, the fact that two of them occurred in 120 cases is sufficient to detract considerably from the value of this indication for treatment. No less than twenty cases show that the pupil may not be very much affected by the antagonist. Atropia, however, exerts the more powerful action upon the pupils, and sixteen of the twenty cases were examples of preponderating dilatation.

The next point to be examined is the antagonism of these agents upon the action of the heart. When given alone, opium undoubtedly has the effect of showing the organ, while belladonna quickens its action. Observers are not agreed, however, as to the influence of the two given simultaneously. Mitchell, Morehouse, and Keen contend that as regards the circulation they do not counteract each other, and Harley, that morphia, as in other organs, increases the effect of atropia. In my own observations I have invariably noticed that the quickening influence of atropia was appreciably diminished by morphia, and *vice versa*. This is also the conclusion which I have derived from the reported cases of poisoning; although it cannot be denied that the effect of the atropia preponderates. The experiments on animals, in addition, show that, to some extent at least, the action on the circulation of the one is antagonized by the other, and Harley's experiments on dogs certainly exhibit this in a striking manner. In the careful experiments of Heubach, too, the same result is shown. We therefore conclude that opium and belladonna have a limited antagonistic action upon the heart; but that the effect of the latter preponderates. Hence the result of the two combined is a rate of movement greater than the mean.

Undoubtedly the most important point of the antagonism between the two drugs is their opposed action upon the respiratory function, and in regard to this there is less difference of opinion than upon any other. In general terms it may be said that opium is a respiratory depressant and belladonna a respiratory stimulant. All the cases of poisoning teach this lesson. When the system is brought more and more under the influence of opium, the quantity of oxygen admitted to the blood becomes less and less, and oxidation is to a proportional extent interfered with ; so that carbonic acid narcosis is superadded to that primarily produced by the opium. Belladonna, on the other hand, counteracts these effects by increasing the number and depth of the respiratory movements, by which an increased quantity of oxygen is supplied to the blood, while excretion is facilitated. These improvements are shown by a flushed face, warm and dry skin, and greater activity of the circulation generally. Atropia proves fatal by exhausting the irritability of the heart and of the vaso-motor system, as well as of the respiratory centres. Morphia opposes these effects by diminishing the work thrown upon the heart and lungs. Nothing could be more striking than the effect of this antagonism as exhibited in many of the 120 cases of poisoning so often referred to. In a case narrated by Dr. Fothergill, the influence of the antagonist upon the respiration is most conspicuous. A woman had taken laudanum containing from twelve to seventeen grains of opium, and when first seen the respiration was almost gone, one grain of sulphate of atropia was promptly injected, and in half an hour afterward the respiration was very greatly improved. In an hour and a half it was going on steadily at thirteen per minute, and the breathing was long and deep. It is probable that in this case the amount of atropia used was almost too large, since the subsequent account shows a preponderating action of atropia. Dr. McGee, of Tennessee, also reports a very instructive case in this connection. A man forty years of age swallowed thirty grains of opium in ten or twelve ounces of whiskey, and became profoundly nacotized. In two hours one-eighth of a grain of atropia was injected, and this having no effect, in half an hour the dose was repeated. By this time the respirations were nearly suspended, and the face was livid. Under the influence of the atropia, however, the respirations now began to increase, the pulse came up to 140, the pupils became widely dilated, and consciousness was restored to such an extent that the patient could be aroused. After this he slept soundly for a number of hours ; but the pulse continuing fair and the respiration regular, full and deep, no further interferance was made in the case. I might also narrate other instances of similar character. The cases of atropia-poisoning treated by morphia are not less instructive, and these are mainly furnished by such authorities as Graefe, Schmid, Fronnmüller and other eminent ophthalmologists. In some of them the amount of atropia taken was probably not lethal ; but the antagonistic effect of the morphia was none the less marked.

If we pass from the clinical to the experimental evidence (derived from both man and animals), we are greatly surprised with the differences in the conclusions arrived at. Thus Mitchell, Morehouse, and Keen concluded, from their observations, that in this particular the supposed antagonism of opium and belladonna did not exist. In some experiments which I made personally on a medical student, I found, on the other hand, that morphia modified to a considerable extent the effects of atropia on the pulse and respiration. Harley (although he distinctly refuses to accept such an interpretation of them) educes facts which seem to prove undoubtedly the stimulating effect of atropia on the respiratory organs, in exact accordance with the evidence furnished by clinical experience. Notwithstanding such adverse opinions, it may now be regarded as settled that opium and belladonna have an antagonistic effect upon the respiratory function.

The antagonistic action of the two agents is furthermore shown in the controlling effect of atropia upon the nausea, depression, and syncope caused by morphia. This antagonism is seen when ordinary medicinal doses are given, and clinical experience justifies the wisdom of Harley's assertion that morphia should never be given alone, unless its effect on the patient is well understood, but always in combination with atropia. The explanation of the abolition of the depressing effects of the morphia thus accomplished, is found in the antagonistic effect of the two agents upon the cerebrum. But while the depression is thus prevented, this is not always the case with the nausea ; for, unfortunately, atropia also causes nausea in some individuals.

The coldness of the surface and clammy perspiration caused by morphia are relieved by atropia, and this is often a matter of considerable importance. The action of the atropia excites the vermicular contraction of the peripheral vessels, and causes more blood to be received from the heart, in consequence of which the surface grows warm and dry and the metamorphosis of tissue is accelerated. The effect of this resumption of activity at the periphery is only second in importance to the renewal of oxygenation of the blood at the lungs.

Atropia excites, to some extent, the action of the kidneys, while morphia checks the flow of urine. They both, it is true, render the emission of urine more difficult, but this is due to entirely different causes in each instance. Morphia has the effect of impairing the sensibility of the mucous membrane and weakening the action of the muscular coat of the bladder ; while atropia stimulates the sphincter to abnormal contraction.

We are now prepared to examine how a lethal dose of one of these agents counteracts the effect of a lethal dose of the other. We have seen that very rarely is this the case in animals, and this fact is, no doubt, to be explained by the difference in physiological cerebral development between man and the lower animals. Hence, we find that in animals the force of the poison is expended on a few comparatively simple organs, while in man it is diffused over much more extensive and complicated structures.

Experience has demonstrated that the quantity of poison which can actually be antagonized successfully is comparatively limited ; the amount which gets into the blood being, as a rule, very much less than that which is taken into the stomach. When the antagonism is successfully employed, what disposition is made of the poison? The fact seems to be that the two agents are simply opposed until elimination has been effected. Furthermore, the separation of the poison from the blood, and its excretion through the usual channels, is greatly promoted by the action of the antagonist in restoring and maintaining the functional activity of the organs depressed by the poison. The principal route of the excretion is through the kidneys (though the agency of the skin and intestines is also of service), and free action of the kidneys should therefore be maintained by the use of diluents. Another point of great practical importance is to draw off the urine from the bladder as fast as it accumulates. Brown-Séquard has shown that alkaloids are absorbed from the mucous membrane of the bladder; and it is probable that alkaloids contained in the urine pass back into the blood again from the bladder. The action of the bowels and skin should also receive attention.

No absolute rule can be laid down as to the dose of the antagonist to be used in any case. We must be governed in this by the effects observed upon the system. The state of the pupils is not a safe guide, because in some instances, as we have seen, they do not react normally. The true guides are the condition of the respiration and the circulation. If the pulse is full and regular, and the respiration deep and rhythmical, the state of the pupil and the depth of the narcotism are of little importance. As a rule, it is the best plan to give the antagonist in small quantity, frequently repeated, until a sufficient amount has been introduced into the system. In some actual trials I have found that one-twentieth of a grain of atropia is about equal to one grain of morphia in toxic power.

Having now finished the survey of these two agents, I submit the following conclusions:

Morphia and atropia are antagonistic in their effects on the cerebrum, and the result of the antagonism is to induce sopor; but this deepens into coma if the quantity used is larger, and hence the antagonism does not extend to lethal doses.

They are antagonistic in their action on the pupil (though this is not constant), and the effect of the atropia preponderates.

They are antagonistic in their action on the heart, but the effect of atropia is more powerful and prolonged.

They are antagonistic in their action on the respiration; morphia slowing the respiratory movements and diminishing the excretion of carbonic acid, and atropia increasing the respiratory movements and the excretion of carbonic acid.

They are antagonistic in their action on the arterial tension; opium slowing the heart and paralyzing the arterioles, and atropia counteracting these effects.

Atropia prevents, to a large extent, and often completely, the depression, coldness of the surface, cold-sweating, and cerebral nausea caused by morphia.

Morphia and atropia are antagonistic in their action on the kidneys, the one diminishing and the other increasing the urinary discharge. They differ also in their action on the bladder, the one dulling the sensibility of the mucous membrane and impairing the vigor of the muscular coat of the viscus, and the other stimulating the sphincter. They are not, therefore, antagonistic in their effect on the bladder.

In therapeutics these antagonistic actions may be utilized to secure effects which cannot be obtained by the employment of either agent alone. The whole subject affords a beautiful example of the success of the methods employed by modern pharmacological research to improve our knowledge of the action of the oldest remedies, and to increase the safety, certainty, and range of their applications to the treatment of disease.

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Hippophagy is on the increase in Paris. In 1879 nearly two million pounds of horse, mule, and ass flesh were consumed.

Original Communications.

The Practical Points Afforded by the Anatomy of Some of the SURGICAL REGIONS OF THE HEAD.

By AMBROSE L. RANNEY, M.D.,

NEW YORK.

SPECIAL SURGICAL REGIONS OF THE HEAD.

There are certain *practical points* pertaining to the anatomy of the head which can be given, in detail, only by considering special regions whose anatomical construction brings them constantly to the notice of the surgeon.

It has been the custom with almost all authors upon topographical anatomy to follow some special plan as to the division of the head into regions, based either upon those landmarks which Nature has herself defined, or upon a physiological connection between the various structures. To follow in detail such a chart as Blandin recommends would increase the scope of this article beyond its proper limits, while it would conflict in many ways with the general plan of its construction. I shall therefore call attention, under this heading, only to such practical points as pertain to the temporal, orbital, nasal, and buccal regions, since other portions of the head have been quite exhaustively treated of in a previous contribution (October 15th).

TEMPORAL REGION.

In the temporal region the ear often presents numerous anomalies. The pinna may be flattened or some of its prominences may be excessively developed. The lobule may be absent or adherent to the skin, while the auditory passage may be abnormally short or narrow, and, in some cases, entirely obliterated. The ancients, deceived by the false idea that the cartilage of the ear was endowed with excessive sensibility, considered injuries to the pinna to be extremely serious; and some have even spoken of fracture of this portion, evidently mistaking an incised wound of the cartilage for such an accident.

The follicles of the external canal may, if morbidly developed, result in small encysted tumors; and inflammation of the external ear or of the auditory canal is rendered extremely painful by the close adhesion of the skin to the subjacent parts. If the external ear be removed, the hearing is markedly impaired, but is not entirely lost.

The curve of the auditory canal explains the necessity of *drawing the pinna upward* when we wish to examine it, since we thus remove the curve, which does not extend to the osseous portion of the canal. In removal of foreign bodies by instruments, it should be borne in mind that, if the instrument has only one blade, it must be carried down upon the *lower wall* of the canal, since we can thus introduce it more deeply before arriving at the membrana tympani, as this portion of the canal is the longer; but, if the instrument has two blades, one should be introduced below and the other above, as the vertical diameter of the canal is longer than the transverse, and the foreign body will be, for this reason, less pressed upon, and a greater space for the instruments will be afforded to pass inward and embrace it.

Whenever it is desired to remove an insect from the ear, the head of the patient should be inclined to one side, and the meatus filled with any mild oil, which may be retained in the ear a few minutes, simply by keeping the head in the inclined position. The oil thus occupying the tube closes the respiratory pores of the creature, and soon either kills it or causes it to seek the surface to obtain air or to escape, when it may be seized or subsequently washed out with a syringe or tepid water. Especially if inflammation exists, this latter mode should be practised, since this condition increases the sensibility of the part and renders the introduction of instruments painful.

If the foreign body should be a hard substance, and one not capable of absorbing water, then the best plan of removing it will be to wash it away by the force of a stream of water thrown in on one side of it, and made to fly outward from the resistance created to the entrance of the water by the surface of the membrana tympani.

Cases have been reported by Sabatier, Blandin, and others, of meningitis having been produced from foreign bodies which have been lodged in the external auditory canal and which have withstood all attempts at removal.

The escape of pus, which often occurs, from the auditory passage may arise from its own lining membrane, or may come from the tympanum or from the mastoid region. The auditory passage is partly membranous on its posterior wall; and this anatomical fact explains how abscesses of the mastoid or parotid regions sometimes point in this canal.

The membrana tympani is sometimes broken by loud noises, as is not infrequently the case with cannoneers; and perforation may also be produced by the pressure of accumulated and hardened wax in the external auditory canal, and sometimes by the pressure of the handle of the malleus. Artificial puncture of the membrana tympani is sometimes performed (as first suggested by Cooper in 1800) to allow the introduction of air into the cavity of the middle ear when the Eustachian tube is obliterated, or for the purpose of evacuating pus during attacks of suppurative inflammation of the tympanum.

The operation of opening the mastoid process, as a means of relief for that obstinate form of deafness produced by permanent occlusion of the Eustachian tube, was first suggested by Jasser, a Prussian surgeon, who thus hoped to establish a permanent and free entrance of air to the cavity of the middle ear by means of the mastoid cells, and who urged the facts that no anatomical difficulties existed to the operation, and that the membrana tympani was left intact, as its chief advantages. The unfortunate accident of erysipelas in the case of Just Berger (physician to the king of Denmark) brought serious criticism on Köelpin, of Copenhagen, who performed the operation upon that distinguished man, and the operation fell into disrepute.

It is a fact worthy of mention in this connection, that the mastoid cells are absent in childhood and are not fully developed until middle life.

The intense pain which is present in *suppuration of the middle ear* is produced by compression of the sensory nerve filaments, since most of the walls of that cavity are bony; hence, we find in those cases an abnormal outward protrusion of the membrana tympani, which is a symptom of great diagnostic value; and, if not surgically relieved by puncture, spontaneous perforation of the drum is liable to follow, and repair of the damage often becomes difficult.

Pages have been written on most of the aural operations, but with a tendency to confuse and embarrass, rather than to encourage the reader. Washing out the internal and external auditory tubes, with perforation of the membrana tympani, or, perhaps, the mastoid cells, really constitutes the entire portion of aural operative surgery, and all are easily executed. For this reason, the steps of catheterizing the Eustachian tube will be found appended in the description of the nasal cavity as a surgical region, while the steps necessary in the operation of opening the mastoid process can easily be ascertained by reference to any work on surgery. The dangers from the surgical relations of this process will be given in full detail later on in this article.

Wounds of the temporal region, even if not very deep, may be attended with profuse hemorrhage, especially when they are situated near the auditory passage, and the temporal artery may possibly have to be tied to arrest it.

The whole of the temporal region may be rendered prominent by tumors of the antrum which have perforated its posterior wall, passed through the zygomatic fossa, and thus encroached upon the temple.

Trephining should never be performed in this region unless the case absolutely demands it, since the thickness of the soft parts which cover the bone renders the operation a difficult one, and since the skull is extremely thin in this portion, and the brain is therefore liable to be wounded. The proximity of the *middle meningeal artery* is an additional reason why the operation should not be performed in this region, unless demanded.

In the region of the mastoid process, the *lateral fontanelle* may be abnormally large, or late in closing, and thus a hernia of the encephalon, whether of the cerebrum or cerebellum, may occur through this opening. Such cases are, however, fortunately infrequent. Wounds in the vicinity of the mastoid process may be attended with profuse hemorrhage if the cutting instrument pass either *in front* of or *behind* it, since large vascular trunks are in close relation to it, both anteriorly and posteriorly.

Caries and *necrosis* of the temporal region are frequently the result of syphilis, and *exostoses* may also be developed from the same cause. The occurrence of necrosis usually indicates that the disease has affected the pericranium, and has separated it from the bone, thus destroying its nutrition. It is a curious fact that the cranial bones are seldom reproduced after removal of the entire thickness of the skull-cap; and this seems to indicate that the dura mater does not take the place of a true periosteum, since it sends few vessels into the bone, which are chiefly nourished by the pericranium, and, for this reason, shows little if any tendency to reproduce bone-tissue.

In trephining over the mastoid process—and the same statement is applicable to other regions of the skull—the liability of injury to some of the *emissary veins*, which chiefly pass through the sutures of the skull, affords a danger of meningeal inflammation; hence all sutures should be looked upon as points of danger in trephining.

REGION OF THE NOSE.

The cavities of the nostrils are much narrower in the infant and the aged than in middle life. In the infant, this narrowness is due to imperfect development of the nasal cavity in the transverse direction; while in the aged, an excessive development of the turbinated bones tends to occlude both the superior, middle, and occasionally the inferior meatus of the nose.

The prominence on the ascending process of the superior maxillary bone may be used as a *guide* for *inserting a probe* into the lower opening of the nasal duct. In performing this operation, a probe which is properly curved is introduced along the floor of the nostril, with its point looking outward; when it has penetrated for the distance of an inch, it is generally withdrawn with the point in close contact to the outer wall of the nasal fossa, until it is arrested by the prominence above mentioned; the probe is then depressed and carried a little inward, and, by a vibratory motion, the instrument is made to penetrate the nasal duct, passing underneath a valve of mucous membrane, which partially occludes its lower orifice. Probing of the nasal duct through the nostril is now seldom resorted to on account of the valve of mucous membrane which occludes its mouth.

The cavities of the nasal fossæ communicate, in the superior meatus, with the sphenoidal sinus and the posterior ethmoidal cells; in the middle meatus, with the frontal sinus, the cavity of the antrum, and the anterior ethmoidal cells; while, in the inferior meatus, the nasal duct opens. The inferior meatus is of importance to the surgeon in the operations of plugging the posterior nares, dilating the nasal duct from below, catheterizing the Eustachian tube, and the removal of polypi or foreign bodies.

In plugging the posterior nares, should the surgeon not be able to obtain Bellocq's canula, he may readily carry a ligature through the nostril and mouth by means of a common elastic catheter, the ligature being passed through the eye of the instrument, the latter being withdrawn after the pellet is in position. After the lapse of several hours, the lint in front of the nostril should be removed by the fingers or forceps, and that from the posterior nares displaced, either by pressing it into the throat by a probe, whence it may be drawn by the thread left attached to it for this purpose, or it may be drawn out by simply employing the end of the ligature left in the mouth.

When the position of the orifice of the Eustachian tube is recollected, it will be seen that the introduction of a catheter in the mouth of that tube is a simple operation, though the verbiage in which it has often been described tends to create a belief in its being difficult.

The patient is seated with the head thrown slightly backward and firmly supported, while the surgeon takes the catheter in his right hand, and, after oiling it, introduces it into the nostril on the side to be dilated. Then, keeping its point on the floor of the nostril, and its convexity upward and inclined against the septum of the nose, he slides it backward till it reaches the soft palate, as may be readily told by the sense of touch transmitted along the instrument, or by the patient making a slight gulp or effort to swallow. At this moment the surgeon should turn the point of the catheter upward and outward by rotating it a quarter of a circle, and then, by a slight movement forward and backward, he may slip it into the tube with as much, if not more ease, than a catheter can be made to enter the bladder. When the proper position of the instrument is ensured, it will at once be known by its steadiness, and also by the sensation of the patient.

Foreign bodies in the nostril may be extracted either from the front, or pushed back into the throat, according to the proximity to one or other of these orifices. As they seldom fill up the entire front of the nose, a curette, or curved probe, or Leroy's instrument for removing fragments of calculi from the urethra, may generally be passed to one side of the article, so as to enable the operator to draw it forward. If jammed between the inferior turbinated bone and the septum, gentle pressure from above downward, by crowding it upon the floor of the nostril, will facilitate its subsequent removal, either by the instruments above named, or by a polypus-forceps, or common dressing-forceps. If, however, the foreign substance should be a piece of ribbon or something similar, which has been stuffed high up in the cavity of the nose, washing out the nostril by a stream of water with a syringe will often dislodge one end, and thus enable the operator to seize and draw it out with the forceps.

During attacks of sneezing, coughing, laughing, or fright, at the time an attempt at deglutition is being made, foreign bodies in the throat may be forcibly driven into the postero-superior part of the nares; and similar instances are recorded during attacks of vomiting, although vomited matters are usually expelled from the nose with little difficulty, in case they chance to enter.

Metallic rings have been forced into the nostril through the pharynx* during attacks of sneezing; and cherry-pits and other substances have been introduced by attacks of vomiting, and some have remained there undetected, until ozæna caused a careful examination of the nares to be made.†

Foreign bodies can also be thus forced into the Eustachian tube, as reported by Fleischmann, where a grain of barley became so lodged, and created ringing in the ears, a sensation of hair in the fauces, and interference with hearing.

It is well known that horse-flies are particularly prone to deposit their larvæ in the nasal fossæ of animals, and that, after their maturity, the animals which are hatched are often thus enabled to enter some of the air-chambers of the head. In countries where leeches abound, they are occasionally introduced into the pharynx with water drank from pools, and they thus are enabled to crawl upward and lodge themselves in the nasal fossa, where they are often detected only by the epistaxis which they create. They are extracted by *salt douches* or medicated injections, which cause them to loosen their hold and drop into the inferior meatus, where they can be reached.

The presence of any form of foreign body in the nose creates a feeling of irritation, which is indicated by an uncontrollable desire to forcibly pass air through the nose and a peculiar stinging pain and sneezing, which the patient seldom becomes deprived of, no matter how long the foreign substance be retained. By its irritation, such an accident may destroy smell, since an offensive ozæna is usually produced if the foreign body be long retained; or, by compression alone, it may occlude the nasal duct, and thus induce symptoms referable to the eye or its lachrymal apparatus, or create necrosis or caries of the bones of the nasal fossa, with the many symptoms dependent upon those conditions.

The subject of foreign bodies of the nasal fossa has much of interest which cannot be here given, and to such as seek for further information the admirable work of Poulet is recommended.‡

Swelling of the mucous membrane of the nasal cavity may partially or completely occlude its calibre and thus affect the tone of the voice, and perhaps occasion dyspnœa; while a similar swelling in the region of the lower orifice of the nasal duct may so occlude that canal as to prevent the escape of the tears through their natural channel, and thus cause them to flow over the cheek.

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* Hickman Lowndes.

† Poulet.

‡ A Treatise on Foreign Bodies in Surgery.

Abnormal tumors within the nasal fossa may be either *mucous polypi*, which are localized hypertrophies of the mucous membrane or the submucous tissue; *fibrous polypi*, which spring from the periosteum, and which are composed chiefly of bundles of fibrous tissue; *cartilaginous growths*, which spring chiefly from the septum of the nose and the frontal or ethmoidal cells; *osseous tumors, sarcomata*, and *cancer*.

The mucous type of polypus rarely, if ever, springs from the septum of the nose, but usually arises from the mucous lining of the superior or middle meatus, or from the inferior turbinated bone. In rare cases they may arise from the roof of the nasal fossa, or even from the frontal sinus,* and they may occasionally be so extensive as to hang into the pharynx.

The fibrous type of polypus, on the contrary, may grow from any part of the walls of the nasal fossa, but is most frequently attached to the basilar process at the base of the skull, and, for that reason, is usually found within the upper portion of the pharynx, behind the uvula.

REGION OF THE ORBIT.

Injuries in the vicinity of the eyebrow may be regarded as particularly liable to be followed by serious results. Death has resulted in such cases from a fracture at the base of the skull, and an accompanying amaurosis from injury to the optic nerve is frequent in such cases. Besides these two sequelæ, an *emphysematous condition of the forehead* may occur if the frontal sinus be opened, and fistulæ may remain, through which air may be forcibly blown if the nose be held.' A case is on record where, after such an accident, the patient could blow out a candle through an opening in the forehead which communicated with the frontal sinus. The supra-orbital nerve which escapes from the orbit by a foramen underneath the eyebrow may also be pressed upon by fragments of bone, and thus become the seat of a tormenting neuralgia, or, by creating reflex symptoms in other nerves which communicate with the fifth pair, may cause manifestations of a diseased condition of other parts of the head and face.†

Penetrating wounds in this region may pass above or below the globe of the eye, or they may affect the globe itself. If the eye itself be injured, it may be destroyed either as a direct result of the accident or by inflammation following it; while, if the eye be not *destroyed*, opacities of the cornea or lens may result, foreign bodies may be deposited within its chambers, the iris may be lacerated, and many other unfortunate conditions ensue which may impair to a greater or less extent the functions of the eye and lead to subsequent changes of a more or less serious character.

Wounds exterior to the globe of the eye are not as serious in their results, except in those cases where the penetrating instrument has passed deeply within the orbit and has injured (1) the orbital arch and the adjacent brain-tissue, (2) the internal or external bony walls of the orbit, (3) the important nerves and vessels situated in the sphenoidal fissure, or (4) by penetrating still more deeply the vessels of the zygomatic fossa. In this latter region, all wounds are especially serious for the following reasons: first, because such wounds necessarily presuppose that the piercing instrument, before arriving there, has passed either through the cheek, the temple, the parotid region, or the orbit; secondly, because it is almost impossible for the branches of the internal maxillary artery or its main trunk to escape injury, while Meckel's ganglion and the superior maxillary nerve may also be wounded; and thirdly, because the collateral circulation between the branches of the internal maxillary artery with the surrounding vessels is so extensive that, even if the common carotid artery be tied, the other vessels are liable to produce fatal hemorrhage.

In extirpating the eye, we must guard against plunging the instrument too deeply, in order to avoid injury to the nervous and vascular structures of that region, since, if roughly introduced, the scissors might be forced into the sphenoidal fissure, or even through some portion of the bony wall of the orbit.

In those cases where amputation of the globe of the eye is performed in preference to extirpation, the globe should be cut behind the iris, lest the contraction of that membrane prevent the escape of the vitreous humor and consequently the formation of a stump for the insertion of an artificial eye.*

Elevation of the floor of the orbit by a tumor of the antrum, or the pressure of an abnormal growth or of suppuration behind the globe of the eye, may cause a protrusion of the eyeball from its socket—a condition to which the term "exophthalmia" is applied. In case the exciting cause of such a condition be a vascular tumor, ligation of the internal carotid, or even of the primitive carotid, may be demanded.

Within the orbital region, the operations of division of certain branches of the fifth cranial nerve, for the relief of neuralgia, are performed, whose steps will be found given in detail in the general treatises on the art of surgery.

The pulley, through which the tendon of the superior oblique muscle of the eye plays, is situated at the upper and inner angle of the orbit, and in close proximity to the internal angular process of the frontal bone. Care should always be taken, in operating in the orbit, that this loop be not severed, as the action of the superior oblique muscle would thus be temporarily destroyed, and its permanent impairment rendered probable.

Abnormalities in the condition of the pupil, and deviations from the normal power of vision dependent upon anatomical defects, have previously been considered, as far as anatomy has any direct bearing upon them, in other articles of mine which treat of the second, third, fourth, and sixth cranial nerves.†

The lachrymal apparatus, which comprises the lachrymal gland, the lachrymal canals, the lachrymal sac, and the nasal duct, often creates a necessity for surgical interference in the region of the orbit. In those cases where the removal of the lachrymal gland is demanded, an incision through the upper lid is usually made, and the gland is then dissected from the surrounding parts. The loss of secretion of the gland is, in a measure, supplied by the *increased action* of the *conjunctiva*, the mucus secreted being generally sufficient to assist the action of the lid over the eyeball.

In contraction of the puncta lachrymalia, the lachrymal canals, or the nasal duct, it occasionally becomes necessary to either dilate them by a probe or to wash them out by means of a syringe. In performing either of these operations, that eyelid, in whose punctum the instrument is to be passed, must first be drawn toward the temple, since by so doing the normal curve of the lachrymal canal is straightened, and the introduction of an instrument is thus greatly facilitated. If the canal is simply to be washed out, the nozzle of the syringe (Anel's syringe is perhaps the best) is introduced into the punctum and the fluid forced into the canal with the finger, while the other punctum is compressed to prevent regurgitation. If the fluid does not pass out of the syringe as freely as the orifice should permit, withdraw the point a little, and, by again passing it forward, any duplicature of the lining membrane of the canal may, as a rule, be easily avoided.

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* Mackenzie.

† Medical Gazette, New York, October 30, 1880.

* Blandin.

† See New York Medical Gazette, October 16th, 23d, 30th, 1880.

In introducing a probe through the lachrymal sac and nasal duct, the instrument should be introduced in the same way as above mentioned, and with the handle of the probe parallel with the border of the lids, the point should be moved toward the inner canthus of the eye till it reaches the lachrymal sac. In some cases incision of the lachrymal canal may be required.

The handle of the instrument should now be elevated from the horizontal to nearly a perpendicular direction, when, on carrying the handle obliquely forward, the point of the probe will pass readily through the nasal duct and escape at the inferior meatus of the nostril.

The intimate nervous communication which exists between the nasal mucous membrane and the lachrymal apparatus explains why irritation of the nose is so frequently followed by an excessive flow of tears, and, for that reason, any excessive action of the lachrymal gland should always suggest to the surgeon a careful examination of the nasal cavity, in case no cause can be discovered in the region of the orbit.

The passage of the third, fourth, ophthalmic branch of the fifth, and sixth cranial nerves through the sphenoidal fissure, and of the optic nerve through its own foramen, explains why any pressure created by abnormal growths within the cavity of the orbit is so liable to be followed by symptoms dependent upon paralysis of some of these nerve-trunks, and to one familiar with the course of these nerves such symptoms often indicate the possible situation of the exciting cause.

REGION OF THE MOUTH.

Within the cavity of the mouth, the bones which help to form it, the mucous membrane which lines it, and the nerves and vessels which are distributed to it, have been considered in previous articles,* and many practical points noted which will require but casual mention here, since they can be referred to under each of these respective heads. The cheek, tongue, tonsils and soft palate, however, present points of interest both to the surgeon and medical practitioner.

In the child, the region of the cheek is particularly liable to gangrenous and ulcerative processes, while, in the adult, tumors are not infrequent in this region. Its physiological functions, in the acts of respiration, mastication, blowing, and sucking, are seriously impaired by any cause which tends to create interference with the conducting power of the facial nerve. The situation of *Steno's duct* gives to wounds of the cheek a surgical importance, since, if that duct be wounded, the escape of saliva between the edges of the wound may create a salivary fistula upon the face, and prove a source not only of disfigurement and annoyance to the patient, but one which it is often difficult for the surgeon to relieve.

The tongue may present conditions of increase in its size as the result of hypertrophy or tumors, which sometimes prevent mastication, and in rare cases may so completely fill the mouth as to render breathing difficult. Its excessive vascularity renders wounds of the tongue a source of serious hemorrhage, which frequently requires ligation of the lingual artery; hence the caution given by surgical authors to inexperienced operators in performing the trivial operation of the division of the frænum of the tongue in children. A peculiar condition of the tongue, in which a *furring* of its *lateral half* is detected, may often be a point of great diagnostic value, since it indicates irritation of some of the branches of the fifth cranial nerve or of the glosso-pharyngeal nerve. Thus, Hilton reports a case where furring of the posterior portion of the lateral half of the tongue followed an attack of tonsillitis from irritation of the glosso-pharyngeal nerves; and another where the removal of a decayed molar tooth caused the disappearance of a similar condition affecting the anterior half of the lateral part of the tongue, which had for a long time withstood all other methods of treatment, since the irritation of the fifth nerve had not been relieved. Bransby Cooper reports a case where the furred tongue persistently remained upon one side after fracture of the base of the skull involving the foramen rotundum; and a similar case recorded by Hilton was produced by disease of the Gasserian ganglion, which was detected at the autopsy. Such cases as these cannot fail to excite interest in the reader and to impress the importance of the bearings of nervous distribution as an aid in diagnosis.*

In operations for the removal of tumors of the tongue, if situated near to its base, an incision through the soft tissues forming the floor of the mouth is sometimes required in order to permit the tongue to be drawn below the chin and thus be more completely exposed. Care should, however, be exercised, after the soft tissues have thus been divided, to prevent the tongue falling or being drawn backward over the superior opening of the larynx. This can be easily accomplished by passing a loop of silk through the tip of the organ, by which its movements can be easily controlled.

If we look beneath the tongue at the attachment of its frænum, we can perceive the openings of the ducts of the sublingual glands; and the orifices of the submaxillary glands (ducts of Wharton) can be detected as two small papillæ on the anterior margin of the frænum. A swelling is often produced underneath the tongue by occlusion of the sublingual ducts, to which the term "ranula" is applied, since such a tumor is normal in the frog. The saliva also sometimes deposits sabulous matter, and gives rise to concretions, which are usually situated in the ducts themselves.

The palate is composed of two portions, the hard or bony structure formed by the palate-plates of the superior maxillary and palate bones, and the soft palate, which is composed of mucous membrane and muscles. The soft palate extends across the back of the mouth from side to side, being attached to the posterior margin of the hard palate above, while its inferior or free margin presents, at its centre, the projecting uvula, which is from half to three-quarters of an inch long in the healthy state.

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* Essentials of Anatomy, 1880; Medical Record, October 15, 1880.

* New York Medical Gazette, October and November, 1880.

The physiological action of the soft palate is chiefly confined to its valve-like obstruction to the upper portion of the pharynx during the act of deglutition, which thus prevents the regurgitation of food, and especially that of liquids, into the posterior nares during the contraction of the constrictor muscles of the pharynx. It also modifies to some extent the intonation of the voice, as is demonstrated in those cases where it is congenitally defective. It is abundantly supplied with mucous follicles, which afford an anatomical explanation of the peculiar appearance which that portion presents when inflamed, since it is then covered by an excessive secretion of mucus, which frequently gives it a whitish color. The muscles of the palate play an important part in its movements, and, in the various operations for fissure of the palate, a close *study of the action of these muscles* is essential to a successful result, since, frequently, some of them have to be divided in order to insure a close approximation of the edges of the wound by suture.

The palate may be the seat of *hypertrophy*, as occurs chiefly in elongation of the tonsil; of *ulceration*, as is particularly liable to occur during the first stages of secondary syphilis, and in scarlet fever and small-pox; and of *tumors*, both of the benign and the malignant character. It may be made to *bulge forward* into the mouth by nasal polypi which protrude into the pharynx, by fungoid growths from the neighboring regions, or by retro-pharyngeal abscess, which is usually dependent upon caries of the cervical vertebræ. Perforation of the soft palate is liable to create considerable difficulty in the swallowing of liquids, in case the abnormal opening be of appreciable size. Most of the movements of the soft palate are produced by means of the glosso-pharyngeal nerve, or branches from Meckel's and the otic ganglion. Paralysis of the soft palate is therefore sometimes associated with paralysis of the pharyngeal, lingual, and labial muscles; hence, deglutition and articulation often become simultaneously embarrassed.

Many points of interest pertaining to the hard palate have been already given in connection with the bones, vessels, and nerves distributed to it,* and need not be here repeated.

The tonsils are small bodies situated between the anterior and posterior pillars of the fauces upon either side. They contain a central cavity, and are in close relations to some of the large vessels of the neck. During attacks of chronic inflammation, or repeated attacks of quinsy sore throat, effusions of lymph into the parenchymatous structure of these glands sometimes produce an induration and a permanent enlargement, which may be mistaken for scirrhus. The continuance of such an enlargement being a source of constant irritation, renders such patients extremely liable to inflammation of the throat on the slightest change of temperature; and, to relieve the sensibility, after the failure of all other means, an operation for their removal may become necessary. Suppuration within the tonsil, especially of both sides, if simultaneously attacked, may so close the fauces as to render deglutition impossible and even respiration difficult, unless by incision the accumulated pus be evacuated. The famous case reported by Desault, in which the carotid artery was punctured by an incision made into the tonsils, should lead all careful surgeons to remember that, in case extirpation of the tonsil be attempted, only that portion should be excised which *projects beyond the free border* of the stylo-glossus muscle, and that incisions should always be made with extreme care.

The occlusion of the ducts which open into the cavity of the tonsil may sometimes result in the formation of *calculi within the gland*, as was first described by Celsus.

The removal of portions of the superior maxillary bone, or, in severe cases, of the bone itself, is demanded by the growth of tumors, usually of a fungous or malignant character, and their encroachment on the surrounding bony structure of the mouth. Probably the earliest reference to the removal of this bone which is known to have been recorded is that of Acoluthus, a surgeon of Breslau, who is stated by Gensoul* to have removed a portion of the upper jaw for tumor in 1693, although Jourdan, in 1768, removed a portion of the antrum, and Dupuytren, in 1820, a portion of the alveolar process of the bone. This operation may be demanded as a means of relief for extensive disease of the antrum which depresses the roof of the mouth, for large polypi of the nose, as is reported by Mott in "Velpeau's Surgery," and for extensive necrosis or malignant growth. The severity of the operation, and the deformity which must ensue if the entire bone be removed, renders it evident that this operation should never be performed except in cases where no other means of relief is possible.

The *lower jaw* may be resected either partially or entire, although the latter operation may justly be regarded by surgeons as a most formidable operation. It was first performed by Graefe and Walther of Bonn, and has since been repeated by Dupuytren, Delpech, Carnochan, and others; but it is still a question whether the evils resulting from the loss of the entire inferior maxilla should not forbid its use.

In those instances where extensive necrosis of the lower jaw has occurred from phosphorus-poisoning, or where tumors have so involved portions of the bone as to impair its usefulness or endanger other parts, a partial resection of bone will often accomplish relief with less difficulty to the surgeon than if the entire bone be removed, and with far less evil to the patient.

In consequence of the effect of fissure of the hard palate upon the tone of the voice, as well as upon the enunciation of words, it becomes desirable to attempt its closure by uniting the two halves as soon as the individual is able to assist the operator in the efforts required for its execution; but, in those extreme cases where such union is impossible, mechanical appliances can often be made which will to a certain extent obviate the annoyances of the deformity.

False anchylosis of the lower jaw, dependent upon cicatrization or contraction of the soft parts, may exist to such an extent as to demand subcutaneous division of the masseter muscle. A case was reported by Dr. Schmidt, in 1841, where a young lady, in consequence of an extensively ulcerated throat when a child, had not been able to open her mouth for a period of twelve years, so that the end of the little finger could be inserted, and where recovery followed the division of the masseter muscle. Dr. Mott, in his edition of "Velpeau's Surgery," treats of this condition for the first time as a special type of disease, and reports seventeen cases where the condition was treated by forcible dilatation by various mechanical devices.

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* Essentials of Anatomy. New York. 1880. See also article in New York MEDICAL RECORD, October 15, 1880.

* Paris, 1833.

It may be advisable in this connection to again call attention to one of the axioms of John Hilton in reference to the nervous association which exists between the joints and the muscles which move them,* since by this useful guide some local seat of irritation may possibly be detected in such cases which will account for such fixation of the jaw, and which, when properly relieved, may be followed by a complete return of mobility without recourse to severer methods. This would, of course, not apply to any form of fixation dependent upon cicatrical tissue.

156 Madison Ave.

A CASE OF PERFORATING PISTOL-SHOT WOUND OF ANTERIOR WALL OF LEFT VENTRICLE OF THE HEART.

Sudden Death on Eleventh Day from Rupture at Point of Lodgement of Ball.

By M. M. ROBBINS, M.D.,

AURORA, ILL.

I was called about 4 o'clock P.M., October 22, 1880, to see J. B. W——, a machinist, aged fifty-seven years, who had been wounded by a pistol ball, and who was then in the condition of severe shock. He rallied fairly that evening, and on the following day reaction was excessive.

On examination, assisted by Dr. E. B. Howell, the ball was found to have entered the outer aspect of the left arm, at a point about five inches below the shoulder-joint, emerging about two inches below the axillary fold, passing anterior to the bone and not injuring it. It then struck the chest over the fifth rib, passed inward and slightly downward to the fourth costal interspace, and a little inside a line drawn perpendicularly from the left nipple. Beyond this point the probe would not pass. He improved quite rapidly. He had no pain except from a bronchitis which he had contracted previous to the injury. There were no special symptoms indicating that the ball had injured any vital organ.

On the eighth day after injury he was dressed. On the ninth day he was out of doors. On the tenth he walked about still more. On the eleventh he walked about for awhile in the morning. About ten o'clock he took a short ride in an easy carriage, and returning home, said that he felt better than at any time since his injury. During the afternoon he walked about or rested uponthe sofa as he felt inclined; ate a light supper about 6.30 P.M.; chatted awhile after eating; said frequently that, except being a little weak he felt better than at any time since his injury. He walked from the table to one corner of the room, sat down and immediately complained of a severe pain and pressure in his chest, in the cardiac region. He walked to another part of the room, the pain and distress continuing, and in a few minutes he was dead. It was estimated by different members of the family that he lived from three to eight minutes after the serious symptoms began, probably not more than the shorter time. He had lived eleven days three and one-half hours after the injury.

Post-mortem fourteen hours after death; present, Drs. Higgins and E. B. Howell. On opening the chest a considerable quantity of blood was found in the left pleural cavity, and the pericardium was filled with blood. About one-half of that in the pericardium was in the form of a recent clot; no old clots could be found. The ball had struck the upper border of the fifth rib, at the point to which we had traced it at the time of injury, described nearly a right angle with its previous course, perforated the pericardium, struck the left ventricle upon its anterior wall, about two-fifths of the distance from the base to the apex, passed into and through the ventricular cavity nearly horizontally, and lodged in its posterior wall, through which it nearly passed at the time of injury. At this point there was a stellate rupture. This was at the apex of a slight elevation upon the surface, the walls of which were very thin. It is possible that these walls had been thinned by the roughened surface of the ball after its lodgment there.

There were old adhesions of the pleural surfaces at the left of the heart, which accounted for the pain in that region which attended his cough; one of the aortic valves was ossified. This was the only lesion, referable to the heart, discovered before death, although careful examination was made for any symptom which would indicate that the heart had been injured.

The ball was 32 caliber. I am informed that he ran about fifty feet, after receiving the wound, before he became unconscious.

The wounds in the arm, chest, and anterior wall of ventricle were entirely healed. One of the pillars of the columnæ carneæ was located immediately over the point where the ball entered the ventricular cavity, and may possibly have prevented or helped to prevent the flow of blood through the wound.

A CASE OF ISOLATED RHEUMATIC INFLAMMATION OF PERICARDIUM CURED BY SALICYLIC ACID.

By WM. S. CHEESMAN, M.D.,

BROOKLYN.

Charles D——, aged seventeen years. The patient gave the following history: He had long been subject to shortness of breath on going upstairs. Two weeks before I saw him he was taken ill with chilly sensations, followed by pains in the bones and in his back. He had since suffered from dyspnœa, orthopnœa, and a slight cough. He had had one such attack before.

When seen on August 24th, he was pale and had anasarca of the feet. He complained of slight pain in the wrists, which were not and had not been swollen. Examination of the chest detected, about the junction of the fourth rib with the sternum, a double friction-sound, synchronous with the heart's beat. This was best heard when the patient lay on his back; it was inaudible when he sat up and leaned forward. The area of præcordial flatness was much increased. It extended about half an inch beyond the sternum to the right, and beyond the apex-beat (which was very faint) to the left. There was flatness above as far as the third rib. Temperature, 101¼°

The next day a beautiful erythema maculatum appeared all over the body and limbs. The physical signs remained the same. Temperature in the morning, 101°; in the evening, 101½°. To have salicylic acid, grs. xx., every two hours, except at night.

During the following day his temperature ranged about 100°, but on the day after it fell to 99°. He complained of tinnitus aurium and dizziness. Percussion showed the area of precordial flatness somewhat diminished, while auscultation revealed loud friction-sounds over the whole precordial area, and a friction fremitus was plainly perceptible on palpation. These friction-signs increased in intensity, the precordial dulness decreased, and the apex-beat came out stronger during the ensuing three days. All this time the salicylic acid had been continued (gr. xx. q.2.h.) and the temperature had remained below 100°. On the night of August 31st the patient became noisy and delirious. As there had been no increase of temperature, and as the inflammatory process was on the wane, the delirium was ascribed to salicylic poisoning, and the drug was stopped; whereupon the delirium passed into sopor and mental hebetude, which lasted a couple of days.

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* Every nerve distributed to the muscles which move a joint sends a filament to the joint itself, and supplies the integument over the insertion of each of the muscles which move it.

On September 3d the area of cardiac dulness seemed normal, and the friction-sounds were much diminished in number and intensity. But with the recession of the signs of pericarditis, there came out more and more clearly a mitral systolic murmur, audible as far as the left posterior axillary line.

A slight rise of temperature which occurred about this time was reduced by salicylic acid, and left the patient feeling very well, the friction-sounds almost gone, but some anasarca of the feet, and a loud mitral regurgitant murmur remaining. No albuminuria or casts. Tr. digitalis ordered.

The patient was last seen on September 20th. The mitral murmur persisted, but examination failed to detect other evidence of any morbid condition in the chest.

The interpretation of this case I take to be as follows: For years the patient had had mitral disease of rheumatic origin, which caused his shortness of breath. Acute rheumatism had now attacked him a second time, but instead of affecting his joints, an inflammatory effusion into the pericardium took place. Like an ordinary rheumatic arthritis, this condition, as well as the fever, was removed by salicylic acid. As the effusion was taken up, the roughened surfaces of the pericardium played upon one another, producing the friction-sounds and fremitus; and as these grew fainter through removal of inflammatory deposits or agglutinations of the visceral and parietal surfaces, the old mitral murmur began to be heard.

The main interest of the case centers in the fact that a true rheumatic inflammation had attacked the pericardium *alone*, and was controlled by salicylate of soda.

In addition, it is an instructive fact that delirium may be caused by salicylic acid. This is now pretty well known in our hospitals, but has not yet found its way into text-books; yet it is none the less a fact. I have notes of a case of rheumatism, in the treatment of which salicylic acid was pushed till delirium supervened, but ceased when the drug was discontinued. *As an experiment* the salicylic acid was repeated and stopped four times, always with the result of producing a delirium, which passed away with the stoppage of the medicine.

Diabetis Insipidus Cured by Ergot.—A case of this kind is reported by Dr. E. W. Saunders in the St. Louis *Courier of Medicine.* The patient was a woman, aged fifty-three years, who had suffered from polyuria for two years. She passed from eight to ten quarts of water per day, sp. gr. 1004. Under ext. ergot, fl. ʒ j., t.i.d., she rapidly improved, and in three months had made a perfect recovery.

Reports of Hospitals.

PHILADELPHIA HOSPITAL.

Notes of Practice and Peculiarities of Treatment.

Clinical Service of HORATIO C. WOOD, M.D.,

PROFESSOR OF MATERIA MEDICA IN THE UNIVERSITY OF PENNSYLVANIA, AND PHYSICIAN TO THE PHILADELPHIA HOSPITAL.

INJURY OF THE SPINE FOLLOWED BY SYMPTOMS OF FRACTURE — OBSCURE CASE OF APHASIA — DIAGNOSIS OF HEPATIC CANCER.

Case I.—*Injury of the spine, followed by symptoms of fracture, with autopsy.*—I find myself, gentlemen, this morning, in a dilemma, as the first case about whom I desired to lecture died just an hour or two ago. However, as the symptoms were of a negative character, I will occupy your attention for a few moments with their discussion.

The man came into the hospital with about this history: On September 28th he fell down a cellar-way, knew nothing after, until he came to his consciousness in a station-house, and found himself completely paralyzed in all parts of his body below the neck. He was brought to this hospital on the following day, at which time he began to suffer from severe pain in both legs and arms.

When I first saw him he was completely paralyzed as to motion; sensation was impaired, although not completely gone, and he had no control over the bowels or bladder. His respirations were about twenty per minute and purely diaphragmatic, and his temperature about 100°.

On October 2d there was a slight change in his condition. There was then complete loss of voluntary movements on right side, the left leg was weak but still capable of exercising all movements, and the left arm and fingers still retained some motion, while movements of head and neck were perfect.

Reflex action was retained in left leg but all gone in right; there existed incontinence of urine, and the bowels, though constipated, were not under control.

His respirations were deep, labored, and purely diaphragmatic. On raising him to a sitting position he had intense pain in the region of the sixth cervical vertebra. He complained of sore throat, but had no apparent difficulty in swallowing. When this man was first picked up you would have almost taken it for granted that he was suffering from concussion of the brain, or perhaps compression from fracture; as, after remaining in the ward, he regained his consciousness, but with such permanent lesions below a certain point in the neck (sixth cervical vertebra), and as when I sat him up he complained of such acute, sickening pain at that point, I concluded that there was a fracture at that point of the canal, although no evidences of it were brought out by the external appearances of the column.

Another evidence of a lesion high up in the cord is the absence of reflex motion. This could not be so if there was not some interruption to transmission of impulse to the centres in the medulla. The man went rapidly from bad to worse, and died this morning from exhaustion.

We will doubtless find, on a post-mortem examination, myelitis at that point, together with possible degeneration of the structure of the cord. At a post-mortem examination which was made, no distinct fracture was discovered at the position of the sixth cervical vertebra, but distinct evidences of concussion, with degeneration and disintegration of the substance of the cord, at that point.

Case II.—*Obscure case of aphasia.*—This woman, gentleman, has been an inmate of this hospital for some time, and came in with an unknown history.

You will notice as she lies on the bed that there is slight paresis of the right side of the face, and that the right leg is drawn up. Now, if I ask her in German "How old are you?" "How long have you been sick?" or any such question, note her reply: It is always "Yes," "No," or "Gott in himmel." She is fairly intelligent, can understand numerals when your fingers are held up, can always make her wants known, so that whatever she may have the matter refers to language and not to ideas.

A curious fact is developed when I touch lightly her right arm or leg; they seem to be excessively hyperæsthetic. This is slight in the arm, but much more marked in the leg.

We have, then, a case before us without any history, which offers these symptoms: right-sided palsy, with power over the muscles of the larynx and face, with loss of language but retention of ideas and no cephalalgia or localized pain in the head.

I think the attack came on suddenly. This I judge, although there is no history, from an inability to discover any progressive lesion of the brain; there only appears a damage wrought, but no progressive steps of a disease, the poor woman being here from day to day in exactly the same condition. There must be then a lesion of the brain in the nature of a clot or thrombus. Although we can suggest no means of diagnosis between a clot or thrombus, we are able, at least, to locate the position of the lesion.

You know that we have, separating the frontal and middle lobes of the brain, a fissure—the fissure of Sylvius. Bounding this is the third frontal convolution, which on the left side has been abundantly proved as the seat of language. This centre is compressed in a small mass of convolutions about the island of Reil. Now, any lesion of this island of Reil is followed by loss of language or aphasia, and almost invariably by right-sided hemiplegia.

It is a curious fact that these aphasias always retain their emotional language at the expense of all other. For example, if a person is addicted to swearing, when suffering from this disease he will often solely use his oaths with great fluency; or, as in a case I knew, the man being very religious, could drop upon his knees and recite the most fluent prayer; but on rising could not group two words together intelligently.

There is a dislocation between the ideas and words which is retained for the emotional language, but is lost for all other. It is a common thing for them to use their native language, although perhaps long in disuse. Here our case uses the expression "Gott in himmel" in her mother tongue.

Some time ago I met a case of this kind in an old lady in the city, who some months before her death talked incessantly in a curious jargon, to the consternation of those around her. This was quite unintelligible, until a linguist being present explained that it was Portuguese. It was not until then that it was discovered that in very early life she had lived in Brazil, and now, when under the strong stimulus of her disease, her mother tongue had welled up to the surface, although hidden for almost half a century.

Why this woman has this extreme hyperæsthesia I cannot tell, except there be some lesion causing an irritation of the brain centres, probably of the crus cerebri or the cerebrum itself.

Case III.—*Diagnosis of hepatic cancer from cirrhosis and abscess of the liver.*—This man, our next patient, is about fifty years of age, and came into the house early in September, suffering from irregularity of bowels, slight pain in the region of the liver, and incessant vomiting, which nothing seemed to relieve.

There were no chest symptoms or gastric tenderness, but percussion over the liver showed marked enlargement of that organ.

His history, in brief, shows that he was always a hard drinker, had had syphilis, and was considerably exposed to malarial influences.

As you see him before you there is apparent a distinct enlargement in the right and left hypochondriac and epigastric regions, and as I percuss the tumor, which is the liver, I can show you its edge extending down below the level of the umbilicus. As I grasp the organ it is resisting, and its edge very rounded and hard; while over its surface can be felt numerous hard nodules or fossilations.

When I first saw this man, I suspected, from his appearance and history, that he was suffering from chronic interstitial hepatitis. You know that when alcohol is taken in excess into the system, it produces two different results. First, should this alcohol be taken diluted, upon a full stomach, it will eventually produce fatty degeneration of the liver. The liver looking, upon a post-mortem table, large, yellow, smooth and fatty; but secondly, should this liquor be taken "straight," and, as is generally the case, upon an empty stomach, it is carried by the portal vein undiluted to the liver, where it acts as a direct irritant, setting up a chronic inflammation.

This is called chronic interstitial hepatitis or cirrhosis of the liver, or, owing to its prevalence in England, where gin is the national drink, gin-drinkers' or hob-nailed liver.

Now, I say, when I first saw this man, I thought that this latter condition was present, but as he stays in the hospital, the organ continues to enlarge gradually and does not take on the proper course of the last stages of cirrhosis, and, at present, has reached a far greater size than any case of that kind that I have observed.

It can be one of two affections, viz., abscess of the liver, or carcinoma of the liver.

I do not think it is an abscess, as he has no history of recurring chills or fever, no cause, such as dysentery or ulcerative change in the intestines, or acute disease of the liver. Abscess of the liver, moreover, is a very obscure and hidden disease, and is rare in this country. I have seen three or four cases on the post-mortem table, but never one which was diagnosed during life, although it is often recognized in hot climates, following acute hepatitis. I must, therefore, come by exclusion to the belief that he suffered from carcinoma of the liver.

This disease is usually associated with severe pain in the region of the affected organ. He has none at present, but did suffer a great deal prior to this time. This pain, however, is not necessary, as it is due, not to disease of the liver itself, but to an involvement of the capsule or covering of the organ, in fact a localized peritonitis. Then, again, this disease is often accompanied by jaundice. It is not in this case, nor ever is unless the position of the cancerous nodules is such as to press upon the hepatic ducts; hence, the absence or presence of jaundice is of little diagnostic value. To briefly sum up, I believe this to be cancer for the following reasons :

The rapid and continuous growth of the organ, its thick, rounded edges, its hard, unfluctuating, nodulated surface, the acute pain which was at one time present, the man's age, his emaciation and his cachectic appearance.

Treatment.—Under the supposition that he was suffering from chronic interstitial hepatitis, he was placed under the internal and external use of dilute nitro-muriatic acid, and direct treatment for his vomiting. For this present condition, none but general supporting treatment can be available. The course of this disease, of course, is toward a fatal termination, but as the diagnosis is only probable, not certain, care should be taken, as in all such cases, to make a guarded prognosis.

Progress of Medical Science.

Grave Febrile Symptoms following Exploration of the Rectum.—M. Richet reports this case, which is interesting on account of its rarity and of the lesson it teaches: The patient, a woman, was suffering from a stricture of the rectum, which bore all the appearances of being benign in nature. It was located a little above the anus, was almost circular in form, and interfered seriously with the passage of the fæces. For several days wads of charpie, smeared with an ointment of the bichloride of mercury, were kept in contact with the stricture, in the hope of producing absorption. A second digital examination was then made, and considerable force had to be used in order to get through the stricture. On the following day the patient had a violent chill, followed by fever, and her condition became very alarming. The chill was repeated at irregular hours, the liver increased in size, the appetite was lost, and the facies assumed a cachectic appearance. The patient had never had chills or lived in a malarious district, and all the symptoms, moreover, pointed to an embolism of the liver. After a time she began to improve, the fever stopped, the liver diminished in size, and the appetite returned. Although the patient could be considered out of danger, M. Richet did not dare to make another rectal examination; as, however, the passages are now regular and well formed, he believes that the stricture has been cured. —*Gazette des hôpitaux*, August 7th.

Maize and Maizenic Acid.—The following are the conclusions drawn by Dr. Vauthier in a brochure entitled: *Étude sur le maïs (Zea maïs) et l'acide maïzenique:*

1. The action of Zea mays is always favorable in all affections of the bladder, whether recent or chronic.

2. Maizenic acid is the active principle of the stigmata of maize, and it alone contains the therapeutic properties.

3. The diuretic action is not constant; it is met with in cases of acute traumatic cystitis and in cases of retention, but here the improvement in micturition is due to the recovery of the affected organs, and not directly to the action of the maizenic acid.

4. The best results are observed in uric and phosphatic gravel, in acute cystitis, whether simple or due to gravel, and in mucous or muco-purulent catarrh.

5. In the cases observed by the writer, the ordinary remedies for these affections had already been employed without benefit, while the maize never failed to effect a cure. In connection with the maize, simple and medicated vesical injections were employed.

6. The maizenic acid, moreover, has the power of dissolving calculi by its chemical action, and not only vesical calculi, but also all the other calcareous concretions that are met with in the human system. Hence its use seems indicated in cases of gout and rheumatism as well as in affections of the urinary organs.

The preparations used by the author were the infusion (10 parts of corn-silk to 100 of boiling water, with syrup *ad libitum:* dose, a tablespoonful every two hours), the extract in doses of one and one-half to three grains, and maizenic acid in doses of one-eighth of a grain in pill or mixture.—*Archives méd. Belges*, August, 1880.

Treatment of Menière's Disease by Quinine.—In 1865 M. Charcot recommended the systematic administration of quinine in the treatment of Menière's disease, and he now states that he has several additional cases of perfect cure obtained by this method of treatment. He lays stress, however, on the importance of administering the drug in large doses and for a prolonged period. He gives from ten to twelve and one-half grains daily, and even more if the patient can bear it, and continues its administration for a month, despite the apparent aggravation of the symptoms that the remedy generally produces at first. At the end of a month treatment is discontinued for fifteen days and is then resumed for another month, and, if necessary, it may be repeated a third time after another interval of two or three weeks. By this method M. Charcot has cured a lady who had already been subjected several times to a quinine treatment carried on without method.—*Gazette des hôpitaux*, August 14th.

Putrid Pleurisy with Sloughing of a piece of Gangrenous Lung.—Dr. Wagner, of Königshütte, reports the following case (*Berl. klin. Woch.*, Sept. 6, 1880): I. W——, aged seventeen, miner, was admitted to hospital suffering from dysentery. Croupous pneumonia supervened on the left side, and during convalescence from this attack he was seized with an acute left-sided pleuritis with effusion. In a few days the effusion was ascertained to have become purulent, and microscopic examination revealed the presence of countless bacteria. A large incision was made in the eighth intercostal space, near the vertebral column. The escaping pus had an offensive odor. In spite of antiseptic irrigation the odor of the escaping fluid became decidedly putrid, the temperature rose to 104°, and the patient's condition grew worse and worse. At this time, during renewal of the antiseptic dressing, a brownish mass appeared in the wound. Moderate traction resulted in bringing to light a piece of gangrenous lung, about three inches long and one inch thick, to which pleuritic false membranes firmly adhered. After this event the patient gradually recovered, although convalescence was somewhat interrupted by purulent retention and the expectoration of offensive sputa. At one time a large part of the injected fluid escaped by the mouth, and this phenomenon persisted several days. The explanation offered was that the newly-formed pulmonary cicatrix had become eroded by the retention of pus, and that a large bronchial tube had been laid open, thus effecting a direct communication of the pleural cavity with the mouth.

COMBINATION OF TURPENTINE WITH CHLOROFORM FOR ANÆSTHESIA.—Dr. Wachsmuth recommends the combination of a fifth part of oil of turpentine with the chloroform used for anæsthesia. The former agent exerts a stimulating action on the respiratory surface, and thus prevents paralysis of the lungs. It also increases the capacity of the pulmonary vesicles, and thus exposes a larger surface to the chloroform vapor, while at the same time a larger dose can be introduced without danger. This method is more agreeable to the patient, because it is more rapid, and at the same time has great advantages for the surgeon.—*Gazette des hôpitaux*, August 28, 1880.

VALUE OF CHLORAL IN PHTHISIS.—M. Ordylowski draws attention to the value of chloral in phthisis. His observations included fifteen cases, of which only two did not have cavities. The drug was given in capsules, in doses of fifteen to thirty grains at bedtime, and the patients then drank a glass of water. No bad symptom was noticed in any of the cases. The sleep was peaceable, the physical symptoms were less distressing in the morning, and the patients felt better and stronger, and never complained of cephalalgia. Whenever the chloral was discontinued the insomnia reappeared. The author claims that, in addition to relieving the insomnia, the chloral diminishes the night-sweats, checks somewhat the loss of weight, lowers the temperature, increases the urinary secretion, and improves the morale.—*Ibid.*

THE TERMINAL DISTRIBUTION OF THE NERVES IN THE UTERINE MUCOUS MEMBRANE.—Prof. Schröder, of Berlin, furnished Dr. Patenko with the freshly excised uteri of five women, and the latter has utilized this material for studying the nervous termination in the mucous membrane. Dr. Patenko states that in all these cases the operation was undertaken for primary cancer, but the malignant disease never extended above the os internum, and the microscopical and minute appearance of the uterine mucous membrane was always perfectly normal. He employed chloride of gold and osmic acid in solutions having a strength of 0.01 per cent. to 0.5 per cent. Portions of the specimens were subsequently placed in 96 per cent. alcohol, and used for thin sections. Other preparations were made by tearing small bits of tissue in the solutions mentioned. He makes a provisional statement of the results of his examinations. By suitable manipulations he succeeded in isolating some of the uterine glands, and a beautiful reticulum of delicate non-medullated nerve-fibres was seen in connection with the membrana propria. This network was situated above the external surface of the glands, and minute filaments were seen to proceed from it into the interior of the glands. These extremely delicate fibres were found between the endothelial cells of the membrana propria, or in the glandular epithelial cells. Their ultimate termination in the latter was not positively ascertained. The nodular points of the surface reticulum frequently showed small nerve-cells. The author believes that this network takes its origin from the nerve-fibres which course in the muscular substance of the uterus, and, accompanied by some intermuscular connective tissue, proceed to the boundary line of the mucous membrane.—*Centr. f. Gynäk.*, September 11th.

THE DEVELOPMENT OF FIBROUS BODIES IN THE OVARIES.—Dr. Patenko, of St. Petersburg, is engaged in studying the histogenesis of ovarian tumors. In a provisional statement of the results of his investigations the following conclusions are arrived at (*Centr. f. Gynäkol.*, September 11, 1880):

1. Ovarian corpora fibrosa unquestionably develop from corpora lutea. They may, however, also arise from follicles of incomplete maturity. During the progress of this development the primary follicles are, as a rule, destroyed by colloid metamorphosis.
2. Corpora fibrosa occur in two varieties: *a*, fibrous bodies containing an internal cavity; *b*, solid fibrous bodies, without any trace of such cavities.
3. Both kinds lack the capability of independent growth.
4. Fibrous tumors which actually grow from the ovaries may attain the size of a hen's egg, or, at the utmost, that of a goose's egg. In other words, their size never exceeds the dimensions which the ovary itself may reach under certain conditions.
5. In such cases the fibrous tumors are formed by a "flowing together" of the follicles and vessels of the ovaries. Both follicles and vessels are found to be in a condition of sclerosis.
6. The ovarian origin of the larger fibromata of the ovary is a matter of doubt.

[It must be confessed that the sweeping assertions of the author appear hardly justifiable from the limited number of cases he has examined. The ovaries of twelve women constituted his entire working material. The histogenetic origin of all kinds of ovarian tumors is certainly a promising field for more extended study, but any undue haste in arriving at general conclusions is even more reprehensible here than in many other microscopical investigations.]

A CASE OF RUPTURE OF THE TRACHEA THROUGH INDIRECT FORCE.—Dr. Wagner, of Königshütte, reports the following case: L. P——, aged nineteen years, railroad employee, sprang from a moving car, and falling, struck the left side of his neck against the brake. His neck was caught by the brake, his body was overturned, and he was dragged some distance by the rolling car. The head was violently pushed backward by this accident. When freed from his dangerous position, the patient experienced severe pains both at the back of his neck and in the anterior cervical region. He was, moreover, unable to move his neck. He was removed to a hospital, and the following was noted on his admission: active motion of head absent; passive movements cause him to scream with pain; fracture of cervical vertebræ not discoverable; no other abnormities. Cutaneous emphysema of the entire neck, the face, and upper pectoral region, was found ten hours after the accident. Respiration somewhat stertorous. Hollow-sounding cough, with expectoration of some fluid blood. Two fingers' breadth above the sternum a painful spot is found. Deglutition unimpaired. Pulse feeble, 120. Temperature normal. The patient soon began to improve, the emphysema gradually subsided, the cough abated, the cervical mobility was slowly restored. After a few days a hard mass was distinctly felt below the chin. It had the size of a hen's egg, was painful to the touch, and showed considerable reddening of its cutaneous covering. A laryngoscopic examination revealed only congestion of the vocal cords and visible portion of the trachea. The tumor showed fluctuation after some time, and pus escaped on incision. The patient finally completely recovered. The writer explains that this case was undoubtedly an instance of transverse rupture of the trachea, caused by the violent backward pushing of the head.—*Deut. med. Woch.*, Sept. 4, 1880.

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THE HOSPITAL SUNDAY FUND.

As the time approaches when charitable contributions will be made to the different hospitals of our city, strenuous efforts are being made to popularize the movement and to increase its sphere of usefulness. In these directions the projectors of the scheme have much encouragement for continued exertion, and have good reasons for hoping that the amount of collections for this year will be greatly in excess of those of last. A permanent organization has now been formed, and the proper measures are being taken to systematize the work. It has been thought best, at least for the present, to allow each donor to designate the hospital to which he prefers his gift shall go, while the sums which are not designated shall be distributed according to the special needs of the hospitals on the list. As these needs are measured by the actual amount of charitable aid afforded to the sick, the system of division is eminently just. Last year the sum of twenty-six thousand dollars was collected in this city and distributed among fifteen hospitals. Although this was not as much as was expected, still, considering that the project was a new one, and that it had been before the public but a comparatively short period, the contribution was a very substantial one.

Since that time two more hospitals have joined the association, making the total seventeen. The list now includes all the larger institutions, with the exception of the three under the charge of the Roman Catholic sisterhoods. These charities have a system of their own for collecting funds, and have not responded to the invitation of the committee.

Judging from the present outlook, the amount of contributions will be very much larger than last year. The project has already taken hold of the public heart, the charity is considered a laudable one, and its management is beyond reproach. Still there is room for much more work in popularizing the scheme, a fact which the association is not slow to appreciate. Already the Secretary, Rev. George S. Baker, has issued a circular to the mayors of the larger cities, asking for the adoption of a system of hospital relief similar to our own, and suggesting that the contributions be made on the same days as here. To these requests several encouraging answers have been received, showing the interest felt in the general movement.

Some mayors have stated that there is no special reasons for such contributions in their vicinity, inasmuch as the hospitals are supported from the tax levy. While this may be a good reason why local organizations are not needed, it is an argument in favor of directing such contributions as might be obtained from such quarters to a general fund for distribution in needy quarters. In fact, we believe that Mr. Baker's project looks toward the formation of larger and more representative organization, which may eventually take charge of an annual hospital fund, to be distributed to hospitals not only in this, but other large cities. The advantages of such an organization would be that those who are inclined to be charitable to the sick poor, and who have no particular demands upon them at home, may be assured that their contributions would be judiciously distributed in other and needy quarters.

Eventually, also, when Hospital Saturday and Sunday grow in popularity, the public will be trained to direct these alms to a common fund, and thus cause a more equable distribution than at present. This will enlarge the usefulness of the association by giving it the fullest possible authority for discriminating between the wants of the different institutions, and making their awards accordingly. At present there are no means of doing this, except with a small proportion of the general fund. If it were otherwise, some of our hospitals would be stimulated to show more of a charitable disposition, and not, on the plea of want of funds, restrict the number of their free beds, and narrow their benefits to such only as choose to pay for them.

THE CHLOROFORM MORTALITY IN ENGLAND.

THE last announcement of a death from chloroform in England follows so closely upon a previous one that attention is naturally called to it. Great Britain is the birthplace of chloroform, and she has tenderly nursed the bantling until now it appears to have developed into something like the *monstrum, horrendum, ingens*, etc., of the Virgilian epic. In the year 1879, the English medical journals reported nine deaths from chloroform, while up to October of the present year there were chronicled seven more deaths from the same cause. These statistics are entirely unofficial and can hardly represent the total mortality from the anæsthetic. Most of the cases occurred in hospitals. Where post-mortems were made the organs, as a rule, failed to show any very satisfactory reason for death apart from the direct effects of the anæsthetic. If the reports may be believed, the chloroform was given in every case with the utmost care; and prompt measures for resuscitation were taken when the victim showed signs of collapse. One can hardly help the conclusion that the English surgeons think it a necessary part of their routine duties to kill from ten to twelve persons every year in order to perpetuate the use of chloroform.

There is in England a very exuberant development of emotional philanthropy. Just now it vents itself largely in anti-vaccination, anti-vivisection, anti-contagious disease societies, etc., which organizations occupy themselves in a kind of dithyrambic agitation of questions that are quite beyond their mental grasp. We venture to suggest that if all this organized activity were turned against chloroform, some good might be accomplished, or at least very little harm could result, which is more than can be said for the society now. There does not appear to be any valid reason why English surgeons should continue the practice of sending a dozen persons annually on their long journey, simply because chloroform is convenient and has the authority of long usage.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE U. S. MARINE HOSPITAL SERVICE.

In making some remarks upon the subject of the marine hospital service a year ago, we referred to its rapid growth as a medical service and the great promise it gave of future usefulness and importance. The report of the Surgeon-General for 1879–80 has just been received, and the record it gives of the past year's work abundantly justifies the prognostications that have been made. Under the skilful and energetic guidance of Dr. Hamilton the work of the Service has been enlarged in every direction. The number of patients treated during the year was 24,860, an increase of nearly four thousand upon the previous year. In addition to this there have been two new hospitals and twenty-three new dispensaries established. One of these hospitals, the largest in the Service, is located on Bedloe's Island, New York Harbor, and has an average of over one hundred patients in it.

Another important measure, secured largely by the activity of the Surgeon-General, is the compulsory examination of pilots for color-blindness. The regulations requiring such an examination went into effect last spring. Up to June 30th 2,870 pilots had been examined and sixty-four found color-blind, which gives the low ratio of .022 per cent. These statistics, however, are not yet complete or conclusive. There are estimated to be over fifty thousand pilots in the country. When they have all been examined, the service will have a mass of statistics which cannot fail to be of great value as regards the question of color-blindness. Some opposition has been excited by the adoption of these compulsory examinations, and their utility has been questioned. Such opposition, however, can proceed only from the uninformed. The facts of color-blindness are perfectly established, and, when it is remembered that there are probably three thousand collisions every year among merchant vessels, the necessity of excluding color-blind pilots from the control of such vessels needs no argument.

The compulsory physical examination of all seamen previous to shipping is a measure strongly recommended in the report. It is shown that since 1873 there have been 14,468 persons treated by the service who were physically incapacitated for the work of seamen; yet most of these were shipped on various vessels, adding by their presence to the risks of the crew and the ship.

Dr. Hamilton gives a table showing the progressive severity of the examination-tests for admission to the service. At the last examination, in 1880, the per cent. of rejections was $82\frac{14}{23}$. A specimen examination-paper is given, which shows that this ordeal, like that of the army and navy, need not alarm any one who has the ambition and industry to prepare for it thoroughly.

One other noticeable point in the present document is the arrangement of the medical and surgical statistics. These are fuller than they have ever been before, and they are tabulated in such a way that they must prove of much practical value.

Dr. Hamilton asks for legislation transferring Bedloe's Island from the War to the Treasury Department. This is a measure urgently needed for the good of the hospital and of the seamen at this port. It has been favorably reported on by a Congressional Committee, and it is expected that early and favorable action will be taken during the coming session.

Looking at the state of the service, as presented to us in the present report, we cannot but congratulate Dr. Hamilton upon the marked improvements in discipline, efficiency, and amount of medical work which he has already secured during his second year of office. This prosperity of the service is the best endorsement that can be given of the character and efficiency of its officers.

SMALL-POX AND VACCINATION.

It would appear to be a work of supererogation to remind the profession of their duty in respect to vaccination, were it not that common things are forgotten unless we are occasionally reminded of their existence. The number of cases of small-pox reported each week to the Board of Health for the last two or three months affords such a reminder. Several of the neighboring cities have been, and still are, the seats of this dread disease, in a more or less epidemic form. Cohoes, Brooklyn, and Philadelphia have been scourged by it, while in San Francisco it is still raging. When the closeness of communication and the constant intercourse between this city and the places above-mentioned is borne in mind, it is a marvel that it has not spread here. Its failure to find a foothold here is not due to lack of opportunity for invasion, but to the vigilance, promptness, and diligence of the Board of Health. Whenever a case has been discovered, it has been at once isolated or removed, and experienced physicians have been sent to vaccinate all in the immediate vicinity whom it was possible to reach.

But these measures, though apparently sufficient to meet the emergency, are not by any means all that is needed, or all that is to be desired. The profession should not allow itself to be lulled into fancied security by the immunity from an epidemic which New York has enjoyed for a number of years. There is only one way by which small-pox can be effectually stamped out, and that is by having everybody vaccinated. But the health board can reach only the poorer classes—those living in tenement-houses or who go to school; a small number compared with those who refuse to avail themselves of the privileges offered by the board, and who depend upon the protecting care of their family physicians. It needs no argument to prove that in many such cases their reliance is upon a broken reed. This neglect of his duty on the part of the family physician arises, in most cases, from simple forgetfulness or carelessness. This is, however, by no means the excuse in all cases, and with shame must it be confessed that there are among the reputable physicians of this city some who, either because they know no better, or for other reasons best known to themselves, pander to and uphold the ignorance and prejudice which the spread of knowledge and enlightenment has not yet rooted out from among the people. So great an obstacle has this been found by the Board of Health that Commissioner Janeway, in a recent report to the county society, as a member of the Committee on Hygiene, called the attention of that body to the subject, and suggested that the censors should take the matter in hand.

The prejudice against vaccination among certain classes is founded on a belief that certain diseases, notably scrofula and syphilis, can be inoculated with it, and a fear of the severity of the sore produced. Without attempting to discuss or decide the former question, even the possibility of such transmission may be avoided by using only bovine virus, as is proven by the experience of the board. In addition to the undoubted purity of this lymph, the vesicle caused by it runs a regular and definite course, and, if undisturbed, is not apt to lead to a very sore arm. Moreover, it is reliable when properly used, and can be obtained fresh, and the supply can always be propagated. Cool weather is the best time for vaccination, and, unless in an emergency, the operation should not be performed in hot weather on a child that is not in good health, or when erysipelas seems to be prevailing. A failure in the first attempt at vaccination is in most cases the fault either of the virus or of the vaccinator. It is true that some people are more susceptible to the virus than others, but a failure on the first or second attempt should not be looked upon as an indication that the patient cannot be vaccinated, and is therefore not liable to contract small-pox. It is the opinion of the most experienced vaccinators that everybody can be vaccinated at least once, which is the strongest argument in favor of repeating the operation upon a fresh subject as often as may be necessary, till it succeeds.

But after a time, usually estimated at seven years, but varying with the individual, the vaccination loses its perfect protective power and requires to be renewed. After a man has once had the benefit of a good vaccination, though it be many years before, if he should contract small-pox, it is not so severe as in the unvaccinated, and not so apt to prove fatal. The statistics of every epidemic show that the mortality from the disease is in inverse ratio to the number of times that the individual attacked had been vaccinated. This will, perhaps, best be seen by a glance at the following figures, collected by Mr. Marston during thirty years' experience in the London Small-pox Hospital:*

Classification of patients affected with small-pox.	Number of deaths, per cent.
1. Unvaccinated	35
2. Stated to have been vaccinated, but having no cicatrix	23.5
3. Vaccinated:	
a. Having one cicatrix	7.73
b. " two cicatrices	4.70
c. " three "	1.95
d. " four or more cicatrices	0.55
4. Having previously had small-pox	19

From these facts and figures it will be seen that if a person who has once had small-pox contracts the disease again, he is much more liable to die than one who has been vaccinated, even though but once. They also point out, as plainly as could be wished, not only the utility of primary vaccination, but also the equal necessity for revaccination at comparatively frequent intervals thereafter. There is but one way of finding out whether revaccination is necessary or not, and that is by trying it. If it does not take, the previous vaccination is still in good force, the insignificant scarification heals in a few days, and there is no harm done. If it does take, it shows that the patient was liable to contract small-pox and it was well for him that the vaccination was renewed.

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* Reynolds's System of Medicine, vol. i., p. 168. Philadelphia, 1879.

We are aware that most, if not all, of what we have said above, is, or should be, known to every member of the profession, but daily experience proves that if such is the case, the knowledge is not applied, and it seemed to us fitting to remind our readers of the grave responsibility which rests upon them now, when the disease is in our midst, and when the time of year is favorable to vaccination.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

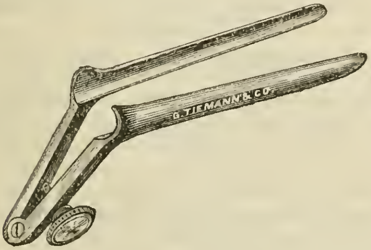
OBSTETRIC SECTION.

Stated Meeting, October 28, 1880.

DR. SALVATORE CARO, CHAIRMAN.

A NEW FEMALE URETHRAL DILATOR.

THE Chairman exhibited a female urethral dilator which could also be used as a speculum. An objection that might be made to the instrument, namely, that the walls of the urethra might fall between its blades, could be overcome easily by introducing a probe and pressing the mucous membrane back. As was noticed, the instrument dilates more at its distal than its proximal extremity, a fact that favored dilatation of the urethra without doing injury to the meatus.



DR. CARO reported two cases in which the instrument had been used with satisfactory results. A maiden lady, aged forty years, was taken with pain in the left hypogastric region. It recurred with each menstrual period and existed only during that time. Finally, she began to have painful micturition. Her urethra was dilated, and four small calculi removed from the bladder. The dilatation was not painful, and the recovery was complete. The second case was that of a young woman who began to suffer from painful micturition soon after marriage. The urethral and vaginal irritation became so great that sexual intercourse was impossible. There seemed to be a spasmodic irritation of the urethra; there was no evidence of inflammatory action, and a single dilatation relieved the patient at once of all discomfort. The dilatation was carried to the extent of about half an inch, when the instrument was allowed to remain in position, and it was soon expelled spontaneously.

DR. ISAAC E. TAYLOR remarked that the dilator presented by Dr. Caro was similar to an instrument which the late Dr. George T. Elliot and himself employed for examining the os uteri.

DR. A. C. POST stated that he was the first to treat vaginismus by stretching the vagina. He also referred to one case of *stricture of the female urethra* which he treated successfully by dilatation.

DR. LIVINGSTON referred to a case in which a lever-pessary had so compressed the urethra as to produce a partial but permanent obstruction of the canal.

INVERSION OF THE UTERUS OCCURRING IN A VIRGIN.

DR. I. E. TAYLOR reported a case of inversion of the uterus occurring in a patient aged forty years, whom he saw with Dr. Polk. There was not any evidence whatever that the woman had ever been impregnated. The uterus was about the size of a large orange. The inversion was complete. Dr. Taylor believed that the inversion had been gradual in its development, and that it began in the cervix.

ABORTION IN THE TENTH WEEK OF PREGNANCY WITHOUT HEMORRHAGE.

Dr. Taylor also reported a case in which a patient thirty-five years of age had unusually severe pains during an abortion, and almost no blood was lost after the delivery of either the embryo or the placenta. After the embryo had been expelled, examination revealed a closed cervix. Laudanum was administered to modify the pains, which were exceedingly severe, and the patient was allowed to remain undisturbed. The placenta came away on the second day without hemorrhage, and there was no bloody discharge subsequently.

PREGNANCY UNDISTURBED BY MANIPULATION AND THE INTRODUCTION OF INSTRUMENTS INTO THE UTERUS.

Dr. Taylor also referred to a case in which the patient had one menstrual period after marriage, and subsequent to that had a slightly colored discharge, occasionally what seemed to be membranous remains passed off, and after a few days she flowed very freely. During the treatment to which she had been subjected, the case having been regarded as one of endometritis, the uterine sound had been introduced, sponge-tents had been used, and various applications had been made to the cervix, yet abortion did not occur, although it was afterwards established that pregnancy must have existed at the same time.

CASES ILLUSTRATING THE EFFECT PRODUCED BY CHLOROFORM IN LABOR.

Dr. Taylor also narrated a case in which labor began at 5 A.M., and at about 5.30 the os was found to be about the size of an old-fashioned sixpence. The pains were severe and continued so throughout nearly the entire day without increasing the dilatation to more than what would be represented by a two-shilling piece, and finally they were quite irritating. He put the patient under the influence of chloroform, and within an hour she was delivered of a large, healthy child, weighing eleven pounds. The case illustrated the stimulant effects of chloroform. In another case the woman had been thirty-six hours in labor, and the head was upon the perineum. Chloroform had been given for several hours, and also ergot, of which Dr. Taylor was not made aware. He directed that the chloroform be withheld, and the child was rapidly delivered. There was no post-partum hemorrhage. The uterus was as round as a ball, and hard. The ergotic contraction had followed the partial removal of the anæsthetic.

DR. LIVINGSTON remarked that he never gave chloroform in labor to the production of complete anæsthesia. He also referred to a case in which uterine pains ceased *entirely* whenever he entered the patient's room: and the phenomenon was repeated three or four times. He placed the woman partially under the influence of chloroform, and the labor progressed without further abnormal delay.

Dr. Livingston also referred to a case in which he was able to utilize a certain fact to his obstetric advantages. He was called in consultation to see a woman who had been in labor for some time, and in efforts at effecting delivery the head had been left in the cavity of the uterus, it having been separated from the body of the child by traction. The woman's pelvis was deformed. After making several unsuccessful efforts to catch the head, he noticed that, when the chloroform was partially withheld, the head occupied a comparatively fixed position, and he utilized that fact, withheld the anæsthetic, the head was grasped and held by the uterus sufficiently firm so that he was able to introduce the trephine, subsequently the cephalotribe, and complete the labor. It was the second case he had seen in which the head of the child had been separated from the body and left within the uterus.

Dr. Taylor referred to Dr. Goodell's statement, that a traction force of 200 pounds was required to pull the child's head off; and that he (Dr. G.) had never seen an instance in which the head was left within the uterine cavity. Dr. Taylor had seen three such cases, and he thought that if 100 pounds of traction force was applied there was very great danger of pulling the head of the child off.

SPONTANEOUS VERSION.

Dr. Taylor also referred to a case, similar to several he had encountered, in which spontaneous version occurred *after the waters had been evacuated four or five hours*, and an attempt to deliver with the forceps had failed.

ABDOMINAL TUMOR—TAPPING—REMOVAL OF PURULENT FLUID—TEMPORARY RELIEF.

Dr. A. C. Post narrated a case as follows: A woman, aged sixty years, came to the Presbyterian Hospital from West Virginia, with a large abdominal tumor, and expected to have ovariotomy performed. After careful examination the conclusion was reached that it was a compound tumor of the uterus, composed of solid and fluid substance, and tapping was advised. The tumor was aspirated, and seven pounds of fluid, largely purulent, were removed. There had been no distinct inflammatory symptoms before, and there were none afterward. A compress and bandage were placed about the abdomen, and no unpleasant symptoms followed. The patient was very much relieved, and, a few weeks subsequently, returned to her home, feeling quite comfortable.

CASE FOR DIAGNOSIS.

Dr. Livingston related a case with the following history: An apparently healthy, robust girl, aged fourteen years, suddenly felt that her clothes were wet over the left hip and buttock. On examination, a liquid, like serum, was seen oozing from one spot, and about *two* quarts flowed out. The fluid appeared only during the day, and at night the flow abated. There was not the slightest change in the appearance of the skin as compared with that on any other part of the body, and the discharge gradually subsided. At the end of *seven* months the same thing was repeated. In the month of August (1880) it occurred for the *third* time, and about three weeks ago it appeared for the *fourth* time. Dr. Livingston then examined the patient very carefully, but, for the time, the discharge had ceased. He did not find anything abnormal. The next morning the discharge reappeared, and he then found, by the aid of a glass, a slightly enlarged follicle with an apparent opening, but it was not large enough to admit the end of the finest lachrymal probe. After using considerable force, the point of the instrument was made to enter slightly, fluid began to flow more freely, and had very much the appearance of synovial fluid, but it was not at all tenacious, nor were the clothes at all stiffened by being saturated with it, and afterward dried. The fluid could be seen coming out drop by drop, and so it continued to do until by evening eight or ten napkins had been wet thoroughly. He estimated the quantity of fluid discharged at two or three pints. He enlarged the opening so as to permit the introduction of the nozzle of a small syringe, and injected warm water, but not more than a teaspoonful could be made to enter, which gave the girl pain extending down her thigh. Otherwise she was apparently in perfect health. When *ten* years of age she slid down hill considerably one day, squatting and sliding upon her feet. The next morning she was taken with very severe pain in the left hip, but she recovered, after a short confinement in bed, and with the use of the limb perfect. She subsequently attended dancing-school, and it was not known that her limb was in any way unsound when the phenomenon referred to appeared.

THE NEW YORK SOCIETY OF GERMAN PHYSICIANS.

Stated Meeting, September 24, 1880.

Dr. Scharlau, President, in the Chair.

MULTIPLE UTERINE FIBROIDS, WITH CALCAREOUS DEPOSITS.

Dr. Tauszky presented the uterus of a colored woman, showing numerous interstitial fibroids in a condition of calcareous change.

Dr. Tauszky exhibited a second specimen, which consisted of a membranous cast of the uterine cavity of a young lady nineteen years of age. The lady in question was said to suffer from membranous dysmenorrhœa, and it was stated that a similar membrane was shed at each monthly epoch. The treatment of this affection was also alluded to.

REMOVAL OF STEEL SPLINTER FROM VITREOUS HUMOR.

Dr. Oppenheimer exhibited a patient from whose eye a steel splinter had been extracted with Gruening's magnet.

[This case has been already published in a previous issue of the Record.]

LARGE UTERINE FIBROID.

Dr. Scharlau presented a large uterine fibroid which he had lately successfully removed. He stated that the presence of the tumor had been recognized sixteen years ago by Dr. Kämmerer.

Dr. Kucher demonstrated the mode of application and action of Poulet's obstetric forceps (see Medical Record, Oct. 30, 1880, p. 498).

SUDDEN AMAUROSIS FOLLOWING THE ADMINISTRATION OF QUININE.

Dr. Gruening related this case, and stated that, in his opinion, the amaurosis was unquestionably the direct result of the action of quinine. The following history was given: Mrs. ——, aged thirty-five years, was obliged to have an abortion performed on her. Five days after this operation, the uterine cavity was scraped with a curette on account of the continuance of an ichorous discharge. This procedure was followed by slight hemorrhage. The temperature now rising to 106° F., the local treatment was supplemented by the administration in thirty hours of eighty grains of quinine. After a severe hysterical seizure the patient now suddenly became deaf and blind. In the course of twenty-four hours the patient's hearing returned. The eyes were at this time in the following condition: pupils dilated to their fullest extent, absolutely without reaction. The different media of the eye were normally transparent, but the papilla showed whitish discoloration, and the retinal vessels were considerably attenuated. The external portion of the retina was somewhat opaque, the macula distinctly red and projecting; absence of corneal anæsthesia. A few days later the patient stated that her vision returned for some time, but this was not proven to be the case. After three weeks, however, she was again able to see, but once more became blind with the reappearance of her menstruation. These occurrences were again repeated at a subsequent menstrual epoch. The patient then began to improve slowly, and, under the administration of nitrite of amyl, digitalis, iron, strychnia, and galvanism, fairly progressed to recovery.

In his further remarks upon such rare instances of quinine amaurosis, Dr. Gruening said that the prognosis of these cases was not unfavorable. The literature of the subject embraced five cases with partial recovery, *i.e.*, in all the field of vision remained permanently diminished. In the present instance, while central vision was perfect, the field of vision was narrowed, and in addition the patient was color-blind. The pupils also showed absence of dilatation after the use of eserin, but the normal calibre did not return with the cessation of the drug; they remained visibly enlarged. Light produced no effect upon their size, but during convergent motions reaction occurred. Finally, he said that the permanence of the diminution of the visual field was so characteristic of quinine amaurosis, that this alone would suffice to exclude sepsis, hysteria, and anæmia from the list of possible etiological factors in the present case.

DIPHTHERITIC EXANTHEMATA.

Dr. Jacobi related the history of a case recently observed by him, which he was inclined to regard as an instance of diphtheria accompanied by a peculiar rash. He stated that in former years such cases had more frequently come under his notice. To distinguish this affection from scarlatina with diphtheria, it must be remembered that the former was characterized by a rash lacking the uniformity of scarlatinous exanthemata, that it made its first appearance on the face and feet of the patient, that it frequently assumed the appearance of an urticaria sprinkled over with pustules of fluid contents. Moreover, the diphtheritic exanthem was not accompanied by the well-known appearances of the mucous membrane of the mouth and tongue. He also emphasized the additional point that diphtheria rarely made its appearance on the first day of an attack of scarlet fever. Diphtheritic exanthemata usually occurred in the early stages of the disease, commonly in cases remarkable for the absence of all septic symptoms. The hemorrhagic rashes of the later stages were of serious, often fatal significance. Thus Callimani reported 115 deaths in an epidemic of 200 cases.

Stated Meeting, October 22, 1880.

Dr. Garrigues, President, in the Chair.

Dr. Jacobi observed that the case of diphtheritic exanthem reported by him at the last meeting, subsequently turned out to be an ordinary case of scarlet fever, showing that strikingly characteristic symptoms may mislead one to form an incorrect judgment.

PERFORATION OF VERMIFORM APPENDIX.

Dr. Gleuck presented a specimen of the above, removed from the body of a boy aged seven years, who had recently fallen a victim to perityphlitis with perforation. The attack had been a very acute one, and had proved rapidly fatal. The appendix showed two perforations, and contained hardened fecal matter, embedded in which there were found poppy and anise seeds and grape-pits. It was thought probable that a slow ulceration without apparent symptoms had preceded the sudden perforation. The immediate cause of the latter was supposed to be a jumping of the boy from the back of his father.

Dr. Jacobi remarked that in children between three and eleven years of age, it was a normal occurrence to find a fold of mucous membrane at the entrance to the appendix, and that this fold, acting as a valve, would cause retention in the appendix of such particles as might accidentally have entered it. Moreover, it should be borne in mind that peritonitic adhesions frequently brought about permanent flexions of the appendix. The late Dr. Krakowitzer had expressed an opinion to this effect—that, as a rule, perforation of the vermiform appendix was preceded by local peritonitis.

Dr. Kucher stated that congenital flexions of this organ had also been observed.

Dr. Jacobi said that in future he would practise abdominal section and drainage, as soon as the diagnosis was fairly established in such cases. In answer to a question from Dr. Mantner, he added that he should not consider it necessary to ligate the appendix, because adhesions would be likely to close the perforated points as soon as antiseptic treatment was begun.

DOUBLE INVAGINATION OF SMALL INTESTINE, WITH ULCERATED MUCOUS POLYPUS.

Dr. Wendt presented a specimen of the above, which had been previously exhibited at a meeting of the Pathological Society. (See Medical Record.)

Dr. Jacobi thought that the ulceration caused by the intestinal polypus had produced a local paralysis of the muscular coat of the intestine, and that this had led to the invagination of the gut.

LARGE SEMI-SOLID OVARIAN TUMOR.

Dr. Wendt presented a specimen, consisting of a portion of an enormous ovarian tumor, successfully removed by Dr. Bopp, of the German Hospital. The history of the case, condensed from the hospital records, was as follows: Mrs. ——, aged thirty-eight years, has given birth to ten children. Menstruation, pregnancies, labors, confinements, were always normal. Last January she had an attack of peritonitis, but remembers no other serious disease. A tumor was first noticed after her last confinement, and from that time on her abdomen grew steadily larger.

On her admission to the hospital the abdomen was found to be enormously distended, and through its walls a fluctuating tumor was palpated. The surface was not even, and the consistence did not appear to be the same at all points. No fluid escaped after the introduction of a good-sized trocar.

On the 19th of April ovariotomy was performed in the ordinary manner, and under strictly antiseptic precautions. When the cyst was exposed to view, a large Spencer Wells's trocar was introduced, but no contents flowed out. The tumor had to be incised and part of its gelatinous and sticky contents removed by using the hand as a scoop. The tumor was found to weigh twenty-eight pounds. The broad pedicle was dropped into the pelvic cavity, and the wound closed by silver wire and catgut sutures. The progress of the case after the operation was favorable. Only on one day the temperature rose to 104° F. The patient was discharged cured in June. The examination of the tumor showed it to consist of many rounded partitions of various sizes, filled with a semi-solid, whitish, glistening mass, having in many places the appearance and consistence of white cerebral substance. Microscopically this mass was composed of variously-shaped epithelial cells, the majority of which showed colloid degeneration. Many of these bodies were also found in different stages of fatty degeneration. Portions of the tumor, when hardened in alcohol, shrunk to about one-tenth their original size, and microscopic sections then exhibited the following appearances: From the external fibrous capsule, ramifying trabecles of connective tissue proceeded inwards, growing thinner as the central portions of a partition were approached. These stalks of connective tissue had a single or double lining of long, slender, cylindrical epithelia, containing large, rounded or oval nuclei. Their protoplasm appeared homogeneous or faintly granular. Beyond this layer of epithelia a more or less homogeneous mass was found filling out the interspaces of neighboring trabeculæ. Here and there in this mass the delicate outlines of cells could still be discovered, showing that its origin was undoubtedly colloid metamorphosis of the lining epithelia. Many trabecles were quite vascular, and in some minute hemorrhages had taken place.

Tumors of this kind had been observed by Ohlshausen and others, but, when of large size, they had invariably proceeded from the parovaries, and were generally bilateral. In this case the tumor was of true ovarian origin, and this fact, together with its large size, constituted its exceptional nature. Another feature of interest was, that although the tumor contained no fluid, it had given unmistakable signs of fluctuation. Such tumors were called by German observers *cystoma papillare proliferum*, or simply *papilloma proliferum*. They were really proliferous adenomata with secondary colloid degeneration.

Dr. Caillé observed that he had met with similar microscopic appearances in the early stage of a cystic goitre.

Dr. Mantner called attention to the fact that Ohlshausen had inferred the parovarian nature of such rare tumors from the presence of ciliated epithelia, and asked whether this had been found in the present instance.

Dr. Wendt answered that a careful examination had failed to reveal their presence, and that there was not the least doubt about the ovarian origin of the tumor.

MODEL OF SPINAL CORD.

Dr. Seesel demonstrated an ingenious model, showing the course and direction of the various columns and fibres of the spinal cord.

Dr. Mandelbaum referred to three tracheotomies which he recently had occasion to perform. The first operation was upon a deaf-mute. Two weeks after the tracheotomy singultus occurred, which could be relieved by closure of the canula. In the fourth week the tracheotomy tube became clogged up with granulations. Speedy cure took place upon the removal of these. The second case was somewhat similar and likewise recovered. In the third case death took place.

Correspondence.

NARCOLEPSY.

A Seventy-two Hours' Sleep.

To the Editor of The Medical Record.

Sir—C. A. E——, aged twelve, came under my care May 21, 1880, on account of attacks of prolonged sleep. The seizures always came on about nine o'clock A.M., with severe nervous headache and drowsiness. He would lie down and immediately go into a deep sleep, which would continue forty-eight hours; then he would be troubled with nervous chills, but these would soon pass off and he would prolong his sleep, waking up at the end of seventy-two hours very much exhausted. During these attacks he could be roused at any time with a little effort, and answered questions intelligently, but would go to sleep again as soon as left undisturbed. He had a marked aversion for all nourishment; when waked up he would refuse to take any kind of food or drink, so they usually allowed him to continue his sleep unmolested. After an attack passed off, he would not remember anything that transpired while it lasted.

The first attack came on in the preceding September, nine months before I saw the case. All the attacks were uniform in character, and similar to the one above described. At first they came on once a month, and he would recover from the immediate effects of it in a few days, so that during the interval he would generally feel very well. But after continuing for a few months they became more frequent, returning every two weeks; then his general health became very much impaired, showing marked symptoms of nervous exhaustion. As the symptoms of neurasthenia afforded the best indications for treatment, he was given the usual remedies for this condition, and he responded very nicely, only having one mild attack afterward, though he had the nervous headache and other premonitory symptoms on several occasions. He has not had a return during the last three months. His maternal aunt is subject to petit mal, and his mother to severe periodic neuralgia, thus showing a neurotic tendency. Yet, some of his family are physically very large and long-lived. His grandfather is at present ninety-five, one of the oldest men in the city; he is a very large man, and vigorous for his age, and bids fair to pass his centennial year in good condition. The patient himself is very much overgrown; he is five feet six, and weighs one hundred and fifty. The physical expressions of neurasthenia, that are so easily recognized by a close observer, and yet so difficult to describe, were well-marked in this case and assisted very much in indicating the necessary treatment. The line that separates neurasthenia from the various lepsies is often indistinct. Frequently, patients vibrate from one side of this line to the other, and for a long time their morbid status may not be clearly defined. While this may be the case to some extent with this patient, yet the order and character of the symptoms, viz., severe nervous headache, followed by a deep and prolonged sleep, with forgetfulness of the occurrences of the sleep, are sufficient to make it a true narcolepsy.

The following case presents more clearly the symptoms that have heretofore been described as narcolepsy:

A. G——, aged forty, of full habit, came under care four months ago for a very severe attack of neuralgia with sleeplessness. The attack proved to be very obstinate, and during the second week the neuralgia and sleeplessness subsided, and was followed by epileptic vertigo. In a few days the vertigo began to alternate with an irresistible desire to sleep. While the attacks of sleep were frequent—as often as six or eight times a day—they were of short duration, only two to five minutes long. They occurred several times at the table, and a few times in company. Often when she would be very busy with her household duties, she would go to sleep for a few minutes, then wake up as fresh as ever. One thing that seemed peculiar in this case was the fact, that the attacks of sleep and vertigo were not associated, but actually occurred on different days, the one taking the place of the other. The vertigo was the most distressing, for the days on which it appeared she was compelled to remain sitting or lying down a greater portion of the time. She would suffer for several days alternately with these attacks, and then be free from them for a week or ten days, when they would return and go through the same order again. During the intervals she would feel quite well, but not as strong as before the attack of neuralgia, which was the beginning of the present indisposition. She had been subject to attacks of neuralgia for several years, but none of them had been as severe as the preceding ones.

If there is any doubt about these attacks being epileptoid, it will be removed by the following: her mother and sister are epileptics, both subject to the grand mal. These facts will assist also in the true classification of narcolepsy.

T. K——, aged eighteen, well nourished, inclined to corpulence, epileptoid headache, loss of consciousness, narcolepsy. She has been subject to severe nervous headache for several years. The attacks of sleep and unconsciousness were first noticed about a year ago, and have occurred at irregular intervals ever since. At first they were several weeks apart, but during last summer they would return every few days, and at this time there was a slight daily headache, most severe at the vertex. She has never had any symptoms of hysteria or convulsions. The attacks associated with the headaches have not been uniform. At one time, after suffering severely for an hour or two, she would go into a deep, unconscious sleep, lasting from five to ten hours, from which she could be roused with difficulty, but when awakened, would answer questions, obey instructions, take food or medicine as directed, and yet have no remembrance of them afterward.

At another time, with the headache, she would become unconscious instead of going to sleep, and while in this state, if allowed to do so, would attend to her ordinary household duties as usual, but in an uninterested or absent-minded way; and there was no intelligent mental register as to what she had said or done while in this condition. Then again, when suffering with headache, she would be seized with short attacks of sleep, lasting three or four minutes, and recurring frequently during the day.

While she had never fallen, yet whenever these attacks of sleep came on, she would sit or lie down and go immediately to sleep, and as soon as it passed off would continue whatever she was doing, as if nothing had occurred.

Since the attacks became more frequent, she has, just after one, a great fear of going out alone, but this passes off in a few days. Her father was subject to some kind of nervous attacks for several years, and died suddenly while away from home. One brother is a somnambulist, and the other one has a very peculiar subjective delusion.

As at present understood, the meaning of the term narcolepsy is an irresistible, morbid desire to sleep. Now, all the cases that I have thus far seen reported describe the sleep as of short duration; and yet, from the very nature of the disease, the length of the sleep cannot possibly be the controlling symptom. It is not the length, but the character of the sleep and the associated symptoms that make narcolepsy a distinct disease. As a variation in the length of the attack indicates only a difference of degree in epilepsy, so it must in narcolepsy also. While the sleep state is a very important symptom, yet it is by no means the only one present. The associated symptoms can be best studied during the intervals of the attack. The best diagnosis of a patient's condition is formed by a general summing-up of all the morbid indications present, rather than on a single prominent one. I believe our present imperfect knowledge of narcolepsy is in a great measure due to a want of discrimination of the disease rather than to its rarity. In the above cases the associated nervous phenomena are given in full to assist in a correct classification of the disease. Dr. Putzel, in a recent work on "Functional Nervous Diseases," classes narcolepsy under the heading of epileptoid sleep states, and I think this is the true position of the disease. There are several varieties of the lepsies that are being very diligently studied just now; and however important these branches may prove, yet they will doubtless continue to be classed with the family of epilepsy. Individuals differ in their morbid as they do in their normal, condition, each one having peculiarities that modify the development of disease. When a patient who is subject to narcolepsy is critically examined there will be found an instability of the nervous organization; and this degeneration of the nervous centres is always present in epilepsy. This instability of the nervous centres has physical as well as nervous symptoms. These morbid physical expressions belong as truly to the life history of epilepsy as do the loss of consciousness or the convulsions. The physical expressions of the disease occupy a very important place in the diagnosis of all the minor forms of epilepsy. When these patients are subjected to a close examination the physical indications of the disease can always be found, yet it is frequently inconvenient, and sometimes impossible, to see the most marked of the nervous symptoms. When narcoleptic patients are carefully examined they not only present the general characters of epilepsy, but the nervous instability, the physical indications, and the minor symptoms, all clearly demonstrate that they belong to the epileptic family. It is only within the last decade that the epileptoid states have been discriminated; and it is very probable that in due time narcolepsy will find its appropriate place among the minor epilepsies, and occupy the borderland between the epileptic and the non-epileptic.

Respectfully, Robert H. Porter, M.D.

Louisville, Ky.

BLOWING ON THE NEW-BORN A REMEDY FOR ASPHYXIA.

To the Editor of The Medical Record.

Sir—A few years ago I discovered that under ordinary circumstances blowing on the asphyxiated new-born babe would establish free and full respiration. I immediately adopted and continue to use this to the exclusion of the old methods of resuscitation.

Certainly it is not as cruel as spanking the babe. Surely it is more convenient than the alternate application of hot and cold water. It is also a readier remedy than "the battery," which only few possess, and which no one wishes to carry with him to every obstetric call.

This gentle blowing can be successfully directed to any part of the naked body, but most effectively to the abdomen, and, *mirabile dictu*, with a loud squall the asphyxtic babe will become a living soul.

Having read, a few days ago, in a report of his clinics, that Prof. Charcot blows similarly on his patients, to recall them from the somnambulistic state to consciousness, has prompted me to place on record my own blowing "wrinkle" for "this far more noble and glorious purpose."

Yours very respectfully, T. J. Hutton, M.D.,
Late Res. Surgeon, L. I. Coll. Hosp., Brooklyn, N. Y.

Fergus Falls, Minn., Nov. 10, 1880.

HEMIGLOSSITIS.

To the Editor of The Medical Record.

Sir—The rarity of hemiglossitis and our ignorance of its true cause makes it desirable to note every case of that curious affection. A. B——, a private of marines, aged twenty-seven years, under my care at the Naval Hospital, Portsmouth, in 1879, was admitted with sore throat and erysipelas. Five days after admission he was attacked with *right* hemiglossitis. The tongue was enormously enlarged, preventing swallowing and impeding respirations to such an extent as to require tracheotomy. In this case incisions were useless, rectal alimentation and stimulants were of no avail, and the patient sank rapidly, dying on the seventh day. De Mussy, Graves, and De Chambre mention several cases of this interesting disease, but in all of these the congestion was on the *left* half of the tongue, while in this case the hemiglossitis was on the *right side.*

Yours truly, C. J. Cleborne, M.D.,
Medical Inspector, U. S. Navy.

HAIR IN THE PUNCTUM LACHRYMALIS.

To the Editor of The Medical Record.

Sir—Twice provoked, I conclude to report an accident of which I have been the subject a second time, and which, with the exception of the case reported by Dr. Z. E. Lewis in the Record of February 14, 1880, is to me unique. My case-book shows that April 21, 1879, I examined my left eye for the purpose of detecting and removing a foreign body supposed to have lodged there. Finding none, I concluded that I was suffering only the inflammatory effects of some substance already expelled. As the disagreeable sensations continued, and I had developed quite a respectable conjunctivitis, the following day I appealed to one of my colleagues who on examination discovered nothing peculiar, with the exception of the conjunctivitis, for which he recommended a mild astringent collyrium. Shortly after, while examining the eye with a magnifying concave mirror, I detected the point of a hair just projecting from the punctum lachrymalis, the removal of which soon relieved me of my troublesome symptoms. Recollecting my previous experience, when looking for a foreign body in the same eye a few days since, I noticed the punctum, and to my surprise again found it occupied by one of the cilia, which I removed with good effect.

Very respectfully, etc., Dr. J. H. Glass,
Pres. Schuyler Co. (N. Y.) Med. Soc.

FACTS CONCERNING THE USE OF THE METRIC SYSTEM.

To the Editor of The Medical Record.

Sir—In the Medical Record of October 23, 1880, under the heading, "The Americanized Metric System," I find the statement that "most physicians appreciate these advantages" (*i.e.*, the advantages of the metric system). In the sentence following the above quotation, your correspondent of the 23d ult. states that "a majority of the pharmacists," . . . "are anxiously waiting the day when they can discard the time-honored drachm and ounce."

The statements quoted may obtain in some parts of the United States, but in New England I venture to say that not one physician in ten are using the original or "Americanized" metric system. It is possible that some very conscientious practitioners may refrain from employing the system because of the druggist's inability to compound the prescription exactly as it is written, but my personal knowledge of the men who use the new system leads me to doubt it. For instance, a friend when he has occasion to prescribe for patients living in the country, writes in the metric system, with the remark to his assistant that he should like to see the country druggist stare in his attempt to decipher it. I am aware that the authoritative voice of the American Medical Association has spoken in favor of the new system, but it is possible that a further experience will occasion a change in its dictum.

The result of inquiry in different Eastern States is, that most druggists who have procured new apparatus have done so at the request of one or more of their patrons, and not because of any desire on their part to do away with the old system of weights and measures.

To many who have familiarized themselves with the metric method, and have undertaken its practical application, the claims for preference over the old system have seemed to be entirely fallacious.

While there can be no doubt that many physicians are using the new system with the honest intent of advancing science, it is equally true that others of the profession do so to appear scientific and superior to their brethren who prefer to deal with facts rather than hypothesis. It seems to the writer that the profession have, to some extent, individually at least, laid aside the cloak of conservatism in regard to the metric system. It is a question if the "Americanized" plan would not interfere with the original intent of the new system, viz., an international system of weights and measures.

When the heads of the executive department of the United States unanimously adopt the system, it will be ample time for those who have the health and life of the American people in charge to change the "time-honored drachm and ounce" for the more elegant grams, 3.887 and grams 31.099.

C. S. Wheeler, M.D

Williamsburg, Mass.

New Instruments.

NEW OVUM AND PLACENTA FORCEPS.

By T. J. CROW, M.D.,

CARROLLTON, ILL.

For the removal of the products of conception in those cases of inevitable abortion where it is very difficult, if not impossible, to reach the ovum or placenta with the fingers, I have devised the instrument depicted in the accompanying sketch.

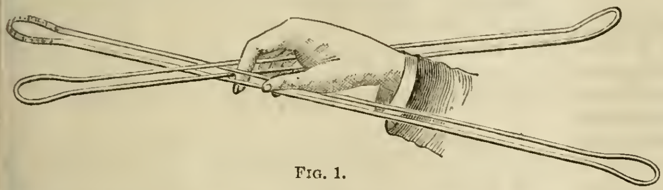


Fig. 1.

It is a double forceps made of steel wire, somewhat like two links of a chain, with the ends of the links properly shaped to make the blades of the forceps.

The blades are shaped like the blades of the common obstetrical forceps, the outer edges being brought to a thin, rounded edge, and the concave surface roughened like the surface of a file.

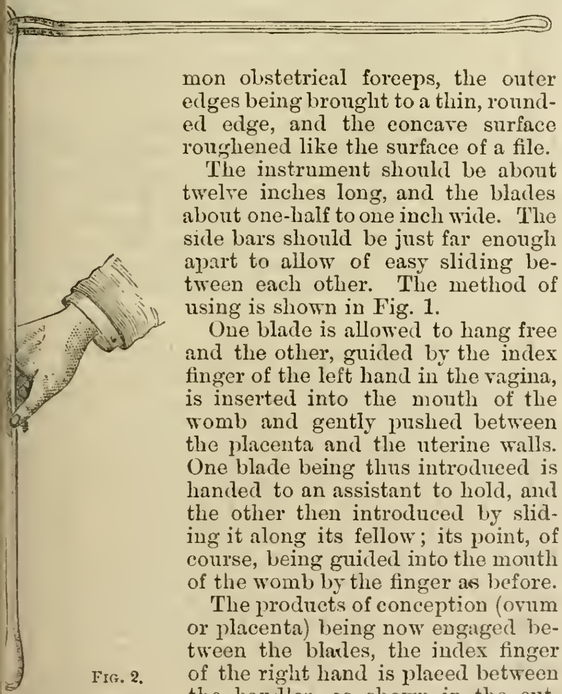


Fig. 2.

The instrument should be about twelve inches long, and the blades about one-half to one inch wide. The side bars should be just far enough apart to allow of easy sliding between each other. The method of using is shown in Fig. 1.

One blade is allowed to hang free and the other, guided by the index finger of the left hand in the vagina, is inserted into the mouth of the womb and gently pushed between the placenta and the uterine walls. One blade being thus introduced is handed to an assistant to hold, and the other then introduced by sliding it along its fellow; its point, of course, being guided into the mouth of the womb by the finger as before.

The products of conception (ovum or placenta) being now engaged between the blades, the index finger of the right hand is placed between the handles, as shown in the cut, and a fulcrum or hinge being thus formed the whole is withdrawn by gentle traction.

Instead of the finger, a piece of cork, sole leather, or soft rubber may be placed between the handles to make the fulcrum.

Very often the ovum, placenta, etc., may be removed by one blade of forceps used as a curette.

The instrument can be used for the removal of tumors, etc., from the womb, and I think (properly modified) would be very useful for the extraction of the stone in the operation of lithotomy. In fact, modified in size, shape, etc., according to the use intended to be made of it, it can be used wherever it is desirable to introduce one blade of a forceps alone, except that I do not think it would do very well for an obstetrical forceps.

I have extemporized a pair for the removal of a cherry-stone from a child's nose, out of two wire hairpins. If desirable, the instrument can be made with only two blades, and handles of any sort fastened to the instrument. If greater steadiness were desired the blades could be made with three wires, thus ——— ——) or the blades could be made solid. A fixed fulcrum could be had by one or more semicircular bends in the handles as thus ———⌒——— and a cork or bit of wood or rubber placed in the bend. When used in cavities too narrow to admit the finger (as the nares, or in gunshot wounds, etc.), a piece of cork, rubber, or sole leather might be fastened on the end of a wire and pushed down between the handles after the introduction of the blades. The forceps is easily made. Any blacksmith can make it. The first instrument I made use of was made of two loops of No. 12 wire from a tin shop.

The above are some of the uses of the instrument; others will suggest themselves.

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ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 14, 1880, *to November* 20, 1880.

Taylor, M. K., Capt. and Asst. Surgeon. To report to Commanding General, Department of the East, for assignment to duty. S. O. 242, A. G. O., November 12, 1880. Assigned to duty at Fort Wayne, Michigan. S. O. 204, Department of the East, November 17, 1880.

Tesson, L. S., Capt. and Asst. Surgeon. Granted leave of absence for six months, with permission to go beyond sea. S. O. 244, A. G. O., November 15, 1880.

Brewer, J. W., Capt. and Asst. Surgeon. Died November 15, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending November 20, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Nov. 13, 1880.	0	21	102	3	11	73	3	0
Nov. 20, 1880.	0	19	132	5	19	150	5	0

The Entire Scapula was removed from a patient in Charing-Cross Hospital recently, for an encephaloid growth. The operation was done by Mr. Bellamy. There was but little hemorrhage, and the patient has been doing well.

Medical Practitioners in Brooklyn and New York.—At last accounts, the number of medical men registered in New York was nearly 2,500. The number in Brooklyn was over 700. If these figures are correct, the difference in the number of practitioners in Brooklyn and New York is quite a striking one. New York has a population of 1,203,823, while the population of Brooklyn is 566,689. The proportion of physicians to inhabitants, therefore, is in New York about 1 to 480, while in Brooklyn it is about 1 to 785. We present the statistics to young men intending to settle in the vicinity.

A Possible Legacy.—Philadelphia charities are in the way of receiving a great windfall. M. G. W. J. Reume, who recently died in that city, left a provision in his will to the effect that, in the event of the death of his wife and children, his estate be devoted to the erection of a hospital for incurables. His property was valued at $2,000,000.

Registering Scientific Men.—An effort is being made by *Science* to prepare a complete list of all those engaged in scientific investigation in the United States. All those engaged in original research, whether professionals or amateurs, are requested to send their names, addresses, and titles to the editor of *Science* in this city. Such a compilation as is proposed does not now exist, and it will no doubt be of considerable value.

A Congress of Hygiene has lately been held at Hamburg. The hygiene of hospitals, and of other buildings, public and private, was the principal subject of discussion.

Medical Societies of London.—London has seven large medical societies, all of which began their annual sessions in October. The names of these societies are: Obstetrical, Clinical, Hunterian, Medical, Pathological, Harveian, Medical and Chirurgical.

The Sulpho-Carbolate of Lime in Rickets.—Dr. D. Withers, in a paper read before the Ulster Medical Society (*Dublin Journal of Medical Science*), suggests the sulpho-carbolate of calcium as the best agent for getting lime into the system. The ordinary lime-salts are generally not very soluble or contain but a small proportion of the base. The sulpho-carbolate, however, is soluble in its own weight of water and each ounce contains ninety grains of calcium.

Health of Boston.—Bearing on the facts which we gave recently in regard to the increased mortality in this city from some diseases, are certain statistics regarding the health of Boston. It appears that there were nearly 800 more deaths in that city for the ten months of 1880 than during the corresponding time the previous year. This increase is attributed in part to the hot weather, and in part to the prevalence of diphtheria.

The Duration of Pregnancy, as estimated by Dr. Geo. J. Engelmann from the histories of six cases in which the date of fruitful coition was known, varied from 242 to 280 days, the average length being 264.6 days.—*Courier of Medicine.*

The Treatment of Brain Symptoms in Typhoid Fever, adopted by Dr. G. P. Atkinson, is to apply a blister to the epigastrium. This, he has found, almost always to quiet the delirium and relieve the patient.—*Brit. Med. Journal.*

Report of the Bureau of General Sanitary Science, Climatology, and Hygiene, to the American Institute of Homœopathy, Session of 1880. As the development of a scientific spirit among homœopaths means the inevitable extinction of its transcendentalism, we are glad to notice a document like the present one. In it we find the subject of quarantine in its various phases discussed intelligently and temperately. The article upon International Quarantine by Dr. Bushrod W. James gives a historical and critical review of the subject, and is particularly instructive. The other five articles upon National Quarantine, Quarantine for Refugees, Disinfection in Quarantine, the Cordon Sanitaire, and the Location and Sanitation of Quarantine Stations, show a good acquaintance with the questions involved, and are entirely devoid of any therapeutical peculiarities.

Saxolinum.—This is the title which, we are informed, the Committee of Revision and Publication of the Pharmacopœia of the U. S. of America have adopted as the official name for petroleum ointment. The term is derived from *saxum*, rock, and *oleum*, oil, and is quite expressive. It will be exactly defined as to properties, reactions, and melting point.

The Midwives in Cincinnati deliver 70 per cent. of the labor cases that occur in the city. The women are generally ignorant and uneducated. The *Cincinnati Lancet and Clinic* deplores the fact that they are allowed to practise so extensively. There is a law in that state which, if enforced, would put a stop to the abuse.

A Proposed New Law.—The Philadelphia County Medical Society have had a bill drafted for the purpose of making communications made to a physician in his professional capacity "privileged." The proposed law, which is similar to the one that has worked so well in this state, has been approved by most of the county societies and medical men of the state, and it will be presented to the legislature at its coming session.

The American Public Health Association will hold its Eighth Annual Meeting in New Orleans, commencing Tuesday, December 7, 1880, and ending Friday, December 10, 1880. Papers will be presented on Abattoirs, Epidemics, Life Insurance in its Relation to the Public Health; The Storm-water Question in City Sewerage; The Sanitary Engineering Problems of the Mississippi River; The Hygiene of Emigrant Ships; The Prevention of Venereal Diseases; Voluntary Sanitary Associations, etc. The special questions suggested for discussion at this meeting, in addition to those connected with the papers above referred to, relate to methods of preventing the spread within a town or city—after they have once been introduced—of such contagious or spreading diseases as diphtheria, scarlet fever, yellow fever, measles, small-pox, etc., and are as follows: 1. What are the best means of securing prompt and reliable information as to the presence and location of cases of such diseases? 2. What are the best means of securing isolation of the first or of single cases of such diseases, and what are the chief difficulties in securing such isolation? 3. Under what circumstances is it proper to declare such diseases epidemic in a place? 4. Under what circumstances is it proper to recommend the closure of schools on account of the prevalence of such diseases? 5. What precautions should be taken at the termination of each case as to—*a.* Care and disposal of the dead? *b.* Disinfection and cleansng of the room and house? *c.* Period of time at which it is safe to allow the convalescent to return to school or society? Brief practical papers upon any or all of these points are earnestly requested, and it is hoped that those attending the meetings will come prepared to give the results of their experience upon the questions, and to make positive recommendations. Gentlemen who propose to present papers at this meeting are respectfully requested to notify the President or Secretary of their intentions and of the title of their papers, in order that they may be assigned a proper place in the programme. By order of the Executive Committee, JOHN S. BILLINGS, M.D., *President*, E. H. JANES, M.D., *Secretary*.

ILLINOIS TRAINING SCHOOL FOR NURSES.—A Society has been formed in Chicago for the establishment of training schools for nurses. The movement is under the direction of many prominent citizens and will, undoubtedly, succeed in its object, that of securing competent and well-trained nurses for the state.—*Chicago Med. Rev.*

HOMŒOPATHY IN THE UNITED STATES.—From the report of the Bureau of Statistics made to the Amercan Institute of Homœopathy the present year, it appears that there are 6,000 homœopathic physicians registered in the United States. There are 23 State societies, of which 17 are incorporated by their repective States. There are 92 local or county societies, and 7 clubs, partly professional and partly social. Of the 38 homœopathic hospitals in this country 30 report 1,682 beds, which provided, in the last year, or 14,959 patients, with a mortality of 367—about 2½ per cent. The cost of building 25 of these hospitals has been $1,549,175, and they are mostly supported by contributions and paying patients. Of the 29 homœopathic dispensaries, 25 report having treated, in the last year, 117,564 patients, with 272,772 prescriptions, at a cost of $10,639.19, or about 4 cents or each prescription. Eleven homœopathic medical colleges are established, and instructed, last year, ,192 students, of whom 387 were graduated. The total number of graduates from these colleges is ,922. The cost of establishing 5 of these colleges has been $230,000; the cost of the others is not given. There are 16 homœopathic journals published in this country, quarterly, monthly, and semi-monthly. There are about 180 homœopaths in New York city, a less number (130) in Brooklyn, and nearly a thousand in the whole state. We have more in New York State than in all New England, where the number is between six and seven hundred. Boston has less than a hundred. Maine, New Hampshire, Vermont, and Rhode Island have between fifty and sixty, Connecticut twice that number.

In contrast to this, it is said that in Great Britain and Ireland there are not two hundred genuine homœopaths altogether. And the number is proportionately small in the continental countries. Homœopathy flourishes in Australia, however. It is a disease of new countries, and of a neurotic civilization.

BATTEY'S OPERATION FOR HYSTERIA.—A very instructive case, illustrating the peculiar efficacy of the above operation for hysteria, has been reported to the Berlin Medical Society. Dr. Israel presented to the society a young woman, aged twenty-three, cured of severe hysteria by "Battey's operation." The patient had suffered for some years with obstinate vomiting, accompanied by severe ovarian pains. She became extremely weak and anæmic. Many surgeons advised the operation, and she gradually arrived at the conviction that castration was the only remedy for her sad state. The operation was performed under chloroform, "with all antiseptic precautions." During the first three days after the operation there was extreme tenderness in the lower part of the abdomen, and ice had to be constantly applied. At the same time there was retention of urine, which only passed off at the end of twelve days. A week after the operation the vomiting had ceased, and the pain in the ovarian region had disappeared. The patient's cure remained permanent. One detail, however, of this beautiful illustration of the value of oöphorectomy remains to be mentioned, and it is not an unimportant one. The operation was a pretended one—a superficial wound was only made!

A case somewhat *à propos* to this has recently been reported in a French journal. It was that of a woman, aged forty-three, who was suffering from an ovarian tumor. The tumor was removed, and the ovary of course with it. The woman got well of the operation, but became permanently maniacal. The mania could not be attributed to anything except the operation.

LIFE AND MIND ON THE BASIS OF MODERN MEDICINE.—The editor of the *Lancet* makes this comment in criticizing a letter upon the above subject: "We maintain that the non-existence of a something beyond or behind matter cannot, with our present knowledge, be proved. The statement, that function or motor force is imminent in matter is not sufficient in these days of vigorous analysis, as an explanation of the meaning of energy in organized bodies present in the state called life, and absent in death. Co-ordinated or associated action surely has a higher or deeper signification than can be predicted of corpuscular *vis insita*. This can never account for the intelligent co-operation of atoms in working out harmoniously the well-being of the individual organism."

NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.—The twelfth annual meeting of the New York Physician's Mutual Aid Association was held November 11th, at the Academy of Medicine. The retiring President, Dr. Mark Blumenthal, who has served for the last six years, read the annual report of the Board of Trustees, from which it appears that the Association now numbers three hundred and fifty members; that its permanent fund has increased from $3,000 in 1875 to over $6,250 in 1880, mainly due to the liberal contributions of Dr. Abram DuBois and Dr. A. F. Sterling, of this city. The benefits of the Association are perhaps best shown by the fact that it has distributed over $12,000 during the last six years, and, since its organization in 1868, over $20,700 among the heirs of its deceased members. The following officers were elected: *President*, Dr. Robert A. Barry; 1st *Vice-President*, Dr. W. W. Reese; 2d *Vice-President*, Dr. Geo. A. Peters; *Recording Secretary*, Dr. David Magie; *Assistant Secretary*, Dr. Daniel Lewis; *Corresponding Secretary*, Dr. J. H. Anderson; *Treasurer*, Dr. Robert Campbell; *Trustees* to serve for three years, Drs. Mark Blumenthal, Erskine Mason, and Geo. G. Wheelock.

ANIMALS WITH A SECOND BRAIN IN THE SPINAL CORD.—The fall meeting of the National Academy of Sciences, which took place in this city last week, was devoted almost entirely to the physical sciences. At the closing session, however, Professor Marsh read a paper on the "Dimensions of the Brain and

Spinal Cord in some Extinct Reptiles," which contained some very interesting facts. Professor Marsh first brought the evidence to sustain his proposition that the older the type of mammal, reptile, or fish, the smaller the brain. He then called attention to a very curious development, in certain fossils, near the sacral region of the cord. In a gigantic reptile of the jurassic formation, an animal nearly thirty feet in length, the brain was scarcely as large as that of an ordinary dog, judged by the size of the cranial cavity. But the spinal canal presented the extraordinary feature of an immense enlargement in the sacral region, where the bone was so excavated as to form an immense vaulted receptacle, several times larger than the brain cavity. The sacrum consisted of four vertebræ, which were well ossified and of great solidity, and within this was contained, during the life of the animal, a posterior brain—if he might use the term—which was eight times as large as the encephalon. The point was of very curious interest, not only as a fact of fossil anatomy, but in respect to the physiological inferences that might be drawn from it, into which he did not propose to enter. It was so remarkable, indeed, that he took occasion to examine other examples of the same species before accepting it as a general fact of extensive application. Upon recurring to some younger specimens of the same gigantic saurian, he was enabled to verify the existence of the cavity in every instance, and to prove that sacral enlargement of the cord in extinct reptilians was an extraordinary fact. If it had appeared in a single instance, it must, of course, have been regarded as a phenomenon due to injury or disease; but in all cases, since his attention was attracted to the point by this enormous creature, he had found the posterior cavity in extinct reptiles.

There was nothing analogous to this sarial enlargement, Prof. Marsh continued, in existing vertebrates. The aurphiax had absolutely no brain—that is, no cerebral enlargement of the cord at the anterior extremity, but there was no enlargement of the spinal cavity at the sacrum which answered to what he had observed in extinct species.

In answer to an inquiry whether the sacral enlargement was in such a position as to furnish a point of origin for the nerves of the leg, Prof. Marsh said that such was the case, and that the animal had very powerful hind legs; but the fore legs were equally strong, and there was no corresponding enlargement.

RESURRECTIONISTS IN BALTIMORE.—Much ado has been recently made in Baltimore over the stealing of two bodies from the Baltimore Cemetery. The robbers had not at date of writing been discovered, but it is stated to be certain that no medical colleges had any connection with the matter.

THE TWENTY-FIFTH ANNIVERSARY OF THE WOMAN'S HOSPITAL was held at the hospital building on the afternoon of November 18th. The annual reports were read, showing that 5,397 patients had been treated since the foundation of the hospital. Additional accommodations were needed for the treatment of the patients, of whom there were at the time 105 in the hospital. Speeches were made by Rev. Dr. Potter and by Dr. R. F. Weir.

THE DIPHTHERIA EPIDEMIC IN BROOKLYN.—During the week ending Saturday, November 13th, there were 139 cases of diphtheria reported to the Brooklyn Health Board, of which number 47 proved fatal. In the week previous there were 109 cases, and 57 deaths; while in the week ending October 30th, 46 deaths from diphtheria were reported.

The disease is scattered over various sections of the city, but during the past three weeks it has been most prevalent in the Fifth, Tenth, Eleventh, and Twenty-fifth Wards. The highest rate of deaths attained in any ward was in the Tenth, were there were seven fatal cases in one week. The Register of Vital Statistics thinks that the climax of the disease has been reached.

MEETING OF THE SANITARY REFORM SOCIETY.—The New York Sanitary Reform Society held its annual meeting at the Society's headquarters, No. 79 Fourth Avenue, on the evening of November 18th. Chief Justice Charles P. Daly presided. A large number of prominent medical men and laymen were present The President, James Gallatin, read the annual report The work laid out for the Society during the coming year was, he said, to secure a law extending the supervision of the Health Board over the plumbing in all houses, whether tenements or otherwise, to endeavor to suppress the Hunter's Point nuisances to compel the licensing of milk venders, to educate the poor in sanitary measures, and to advocate a radical change in the present plan of cleaning the streets.

Prof. C. F. Chandler delivered an address upon the recent work of the Board of Health, devoting himself especially to a review of the good effects o the present tenement-house laws. He showed tha since the passage of the law, procured by the efforts of the Society, 1,047 tenement-houses have been erected in this city. These accommodate 7,736 families, aggregating about 23,000 persons. By reason of the new law, these 23,000 persons have been provided with the best kind of house shelter, and all in a little over a year. The law has served to educate the architects, so that now fully one-third of the tenement plans presented to the board for approva are accepted without requiring a change. Prof Chandler said one of the most important results o the improved law was the fact that not a tenement house has been built since the law was passed in which air and light were not given to every singl room occupied as a living or sleeping room. In conclusion, the Professor discussed the steady decreas in the rate of infant mortality in the city, and then urged that a radical change should be made in th present system of street-cleaning, and advocated th adoption of the "block system" of cleaning, as urged by him before the Senate Committee on Cities som time ago.

The meeting was an interesting and successful on in every respect.

BOOKS RECEIVED.

Walsh's Physician's Handy Ledger. Ralph Walsh, Washington, D. C Also Walsh's Call-Book and Tablet.

Medical Record Visiting-List. 1881. W. Wood & Co.

Physiological Chemistry of the Animal Body. By Dr. Arthur Gainge Vol. I. London: Macmillan & Co. 1880.

Invalid Cookery, etc., by Mrs. Julia A. Pye. Edited by Mrs. Eliza A Pitkin. Chicago: Knight & Leonard. 1880.

Treatise on Diphtheria. By A. Jacobi, M.D. W. Wood & Co.

Cutaneous and Venereal Memoranda. By H. G. Piffard, M.D., an Geo. H. Fox. M.D.

Ophthalmic and Otic Memoranda. By Drs. D. B. St. John Roosa an E. T. Ely. W. Wood & Co.

Surgical Diagnosis. By A. L. Ranney, A. M., M.D. Second Editio W. Wood & Co.

Original Lectures.

CARTWRIGHT LECTURES,*

ON THE

PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

By ROBERTS BARTHOLOW, M.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

(Special report for THE MEDICAL RECORD.)

LECTURE III.

ANTAGONISM OF ATROPIA AND PHYSOSTIGMA—ATROPIA AND PILOCARPINE—ATROPIA AND MUSCARIA—ATROPIA AND QUINIA—ATROPIA AND BROMAL HYDRATE, AND ATROPIA AND ACONITINE.

Mr. President and Gentlemen:

The next investigation concerning the antagonism between medicines to which I invite your attention is that relative to the action of atropia and physostigma, or Calabar bean. In the experiments made in this connection, both the extract and the active principle of the drug, eserin, have been employed to produce the physiological effects of physostigma. For the first time, in 1864, a case of poisoning by atropia was treated by Kleinwachter with the internal administration of the latter, which had the effect of relieving the symptoms to a certain extent. In 1867 Bourneville, in a treatise on the treatment of tetanus by physostigma, recorded a single experiment exhibiting the opposed action of this agent and atropia. In 1868 I made a number of experiments, whose results were similar, and, in 1869, followed the researches of Prof. Thomas R. Frazer, of Edinburgh, which were the most important which had been made up to that time. Next came the report of the special committee appointed by the British Medical Association, of which Dr. J. Hughes Bennett was the chairman.

In order to comprehend the extent and character of the antagonism between the two agents, it is necessary that we should form a definite conception of the action of each. In what respects do they agree, and in what differ in their effects? The effects of atropia have already been sufficiently studied, and therefore need not be recapitulated. Physostigma, unlike atropia, does not affect the cerebral functions. It contracts the pupil, paralyzes the voluntary muscles without interfering with sensibility, increases secretion, augments the heart's action and the arterial tension, and causes death by paralyzing the respiratory muscles. While, therefore, atropia occasions active delirium, with hallucinations and illusions, by its effect upon the brain, physostigma does not affect this organ at all. As regards the pupil, atropia causes dilatation by stimulating the radiating fibres innervated by the sympathetic, and physostigma paralyzes these fibres. Atropia quickens the respiratory movements by its stimulating action, and physostigma paralyzes the muscles of respiration. Atropia increases the rate of movement of the heart, without increasing its power, and physostigma increases its power without adding to the rapidity of movement. Atropia diminishes the salivary and intestinal secretions, and physostigma increases these. Finally, they differ in their action on the voluntary muscular system, atropia paralyzing the motor nerves, and physostigma causing spinal paralysis.

In regard to the lethal effects, Professor Frazer says: "Atropia prevents the fatal effects of a lethal dose of physostigma by so influencing the functions of certain structures as to prevent such modifications from being produced in them by physostigma as would result in death. The one substance counteracts the action of the other, and the result is a physiological antagonism so remarkable and decided that the fatal effects, even of three and a half times the minimum lethal dose of physostigma, may be prevented by atropia." The first case reported of the treatment of poisoning by atropia with physostigma was successful, and the first experiment made for the purpose of testing the antagonistic action of the two also proved a success.

The first extended and complete series of experiments on the subject, however, were made by myself in the year 1868, as mentioned previously, before the appearance of the account of Bourneville's observation in the same year, and the results of these were published in my prize essay of the American Medical Association in 1869. I respectfully submit, therefore, that I have a priority of a whole year over Frazer, although I do not hesitate for a moment to acknowledge the superiority of his researches. In his historical review I think he hardly does me justice, for when he quotes from my essay he merely takes a sentence or two from the general conclusions which do not give a satisfactory idea of the whole meaning of my researches. Yet, as I shall presently show, subsequent investigations have confirmed my conclusions, which were as follows:

"Atropia and physostigma are antagonistic as to their influence over the respiratory movements—atropia increasing, and physostigma retarding them.

"They are antagonistic in their action on the heart—atropia producing excitation of the cardiac ganglia, and physostigma paralyzing them.

"They are opposed in respect to their action on the sympathetic—atropia causing increased action, and physostigma paralyzing this system.

"They have opposite effects on the pupil, in virtue of opposite effects on the sympathetic—atropia dilating the pupil by its action on the radiating fibres of the iris, and physostigma contracting the pupil by paralyzing the radiating fibres."

Frazer was convinced, by his extended and careful researches, that the lethal effects of atropia and physostigma were antagonistic throughout a wide range; but the committee of the British Medical Association, while admitting the existence of the antagonism, arrived at the conclusion that it was much more limited in its range than Frazer believed.

The special points of the antagonism between the two agents have now been studied with great care by a number of observers. As regards the heart, physostigma first causes an increase in the blood-pressure, but afterward a diminution of the same, while the action of the heart remains accelerated. It slows the heart by lengthening the diastolic pause, augments the force of the contraction, and increases the arterial tension. (After alluding to the experiments of Arnstein and Sustschinsky, Rossbach and Fröhlich, Harnach and Witkowski, Köhler, Laschkewich, and others, the lecturer went on to say): How much soever the various observers may differ in their explanations, the fact remains that atropia and physostigma are opposed in their action as regards the heart.

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* Of the Alumni Association of the College of Physicians and Surgeons, New York.

In regard to their effect on respiration, there are fewer differences of opinion. It is generally conceded that atropia stimulates the respiratory centre, while physostigma tends to suspend reflex excitability, and is a spinal paralyzer; so that the function of respiration is early affected when it is given.

The point of opposition which is most conspicuous, and that which first attracted attention to the antagonism between the two, is their action upon the pupil—eserine producing contraction, and atropia dilatation. There are great differences of opinion in regard to the mechanism of these two opposed actions. By some the contraction of the pupil by eserine is believed to be due to a paralyzing effect on the dilator fibres, and by others to a spasm of the sphincter fibres. The latter view would seem to be correct from the fact that the effect of physostigma on the muscular coat of the intestines is to bring on tetanic contraction or spasm. When the pupil is contracted by eserine, it can readily be dilated by the employment of atropia; but when it is dilated by the latter, eserine has no effect in causing its contraction.

The delirium, hallucinations, and other cerebral phenomena caused by atropia are in no wise affected by physostigma. In cases of poisoning by the latter the mind remains unaffected until toward the close of life, when carbonic-acid narcosis comes on. This, indeed, occurs under the toxic effect of all purely respiratory poisons, and is due simply to the suspension of hæmatosis. Now carbonic-acid narcosis being one of the prominent effects of atropia-poisoning also, physostigma and atropia cannot be said to be antagonistic in their action on the cerebrum.

In their spinal effects there are obvious differences between the two agents. It is true that they are both paralyzers; but atropia gives rise to an after-tetanic condition in the cold-blooded animals. When they are given together, this tetanic condition occurs at once (a fact that I was the first to demonstrate), and so exalted is the reflex function of the spinal cord that a tetanic spasm is excited by a slight tap upon the surface of the body; the condition between being one of relaxation. In several of the cases of atropia-poisoning trismus was quite a marked symptom. The paralysis occasioned by atropia, as Ringer and others have shown, is largely spinal, although the irritability of the motor nerve-trunks is impaired. Dr. Mary Putnam-Jacobi's experiments show that atropia impairs the sensibility of the sensory nerves. Physostigma, on the contrary, augments their sensibility, and is a spinal paralyzer; while the motor nerves and muscles remain unaffected by it. These agents, therefore, agree in more points than they differ in their action on the spinal cord.

In their effects upon secretion, however, we find greater differences. An increase of the flow of saliva, tears, sweat, and the secretions of the intestinal glands is a constant result of the action of physostigma, and this is due, according to Haidenhain, to its general stimulating effect upon the secretory nerves. This conclusion is apparently confirmed by the fact that when the *chorda tympani* nerve is divided near the submaxillary gland, no increased flow of saliva takes place. As is well known, the action of atropia is the opposite of this. It suspends secretion, most probably by paralyzing the end organs of the nerves in the gland. Thus, Schiff has demonstrated that when the *chorda tympani* nerve is divided, secretion of the submaxillary gland is arrested.

Physostigma and atropia also act differently upon the motor functions and the muscles. I have already laid stress upon the tetanic effect produced by atropia in the cold-blooded animals, and the fact that trismus occurs in many of the cases of atropia-poisoning. Botkin pointed out that atropia paralyzed the motor nerve-trunks, while Laschkewich and Frazer have shown that neither these nor the muscles are affected by physostigma. Though differing in their action on the motor functions and muscles, therefore, they are not opposed.

Our conclusions from a study of the subject may be summed up as follows:

First.—Physostigma, or eserine, and atropia are antagonistic in their action on the pupil.

Second.—They are different, but probably not antagonistic in their action on the heart.

Third.—They are opposed in their effect upon the respiratory function; physostigma paralyzing, and atropia stimulating it.

Fourth.—They are not opposed in their action on the cerebrum. Atropia produces delirium and hallucinations, while physostigma does not affect the cerebral functions; but both cause more or less carbonic-acid narcosis.

Fifth.—They act differently, but not antagonistically on the spinal cord and nerves. Both cause paralysis; but while atropia impairs the irritability of the motor nerves, physostigma does not. Physostigma increases the irritability of the sensory nerves; while atropia, if it has any effect at all upon them, diminishes this.

Sixth.—They are antagonistic in their action on secretion; physostigma stimulating it and atropia arresting it.

From the above conclusions it follows that atropia overcomes the lethal effects of physostigma by stimulating the respiratory function; but it is certainly very doubtful whether physostigma is of any practical service in poisoning by atropia.

BELLADONNA AND PILOCARPINE.

The opposed action of these two agents constitutes one of the most interesting and complete in the whole series of medicinal antagonisms. Having sufficiently studied the physiological action of atropia, we must now inquire what is that of pilocarpine. The history of jaborandi affords an admirable illustration of the achievements of modern physiological and therapeutical research. When it was first introduced, great numbers of observers all over the world set about the investigation of its action and effects. The results of their first researches have been abundantly confirmed by subsequent observations, and the literature of the subject is already vast.

In a few minutes after a dose of pilocarpine has been taken into the stomach, or hypodermically injected, the action of the heart is increased, a feeling of warmth goes through the system, and the face becomes flushed. When a very large amount is taken, this increased action of the heart does not occur, and in the smaller doses it does not continue after the sweating commences. The pupil becomes contracted, spasm of the accommodation takes place, and recession of the near point results. There is more or less cephalalgia and feeling of tension about the head, ordinarily accompanied by transient vertigo. Soon after these symptoms are noticed the perspiration begins, and quickly becomes excessive, the skin literally pouring out water. Simultaneously, or even before the sweating, the saliva commences to flow also in enormous quantities, so that it can often be measured by pints. In some instances, however, the one secretion seems to be substituted for the other, though usually both are excessively increased. When the sweat and saliva have thus become profuse, the pulse declines in force, volume, and quickness, the face grows pale, and a sense of exhaustion ensues. The temperature, which may perhaps ascend above the normal at first, now falls somewhat below it, and a feeling of chilliness is experienced. The secretion of urine is less than normal, but the bladder is very irritable. Drowsiness comes on as a result of exhaustion, and not in consequence of the direct effect upon the brain. When the agent is taken into the stomach, more or less nausea and vomiting are usually produced, but are much less marked if it is injected under the skin. Sometimes a watery diarrhœa is also one of the results.

(The lecturer now proceeded to indicate the main points of antagonism between atropia and pilocarpine, after which he alluded to two cases of belladonna-poisoning treated by Ringer, with the subcutaneous injection of pilocarpine, without appreciable result. He then went on to detail the results of the experiments made for the purpose of testing the antagonism by Vulpian, Langly, Marmé, Petrina, Nowroski, Robin, himself, and other observers, and arrived at the following conclusions :

First.—Belladonna and pilocarpus are antagonistic in their action upon the secretions, especially of saliva and sweat, pilocarpus stimulating these enormously, and belladonna arresting them.

Second.—They are antagonistic in their action on the heart and the arterial system, pilocarpus slowing and weakening the heart, and lowering the vascular tonus, and belladonna strengthening and accelerating the movements of the heart, and increasing the arterial tension.

Third.—They are antagonistic in their action on the eye, pilocarpus producing contraction of the pupil, spasm of the accommodation, and recession of the near point of vision, and belladonna dilating the pupil, paralyzing accommodation, and inducing presbyopia.

Fourth.—As regards the brain, there is no real antagonism between the two. The excitement, delirium, and hallucinations caused by atropia remain unaffected by pilocarpine, while the soporose condition induced by the latter is due merely to exhaustion and cerebral anæmia, and not to any primary effect upon the brain.

Belladonna and pilocarpus agree in the unsusceptibility of children to their action. Ringer and Gould found that a quantity of jaborandi which would excite profuse perspiration in adults had little or no effect upon children ; and it has been equally well proved that children are much less susceptible than adults to the effects of belladonna.

We have next to consider the mutual counteractions of

ATROPIA AND MUSCARIA.

Muscaria is obtained from *amanita muscaria* (the fly-fungus). Muscaria or muscarine has strong alkaline and basic properties, and unites with acids to form salts. It is a colorless substance, of the consistence of syrup, is readily soluble in water, and its salts rapidly deliquesce on exposure to the air. It seems to be a very active toxic agent, one-thirtieth of a grain producing marked symptoms in the human subject. The general effects are as follows : considerable gastro-intestinal disturbance is caused by it, consisting of nausea, vomiting, diarrhœa, and severe colic, which are due to the tetanic contraction of the muscular layer of the bowel which it produces, and an active delirium characterized by rambling incoherence and a somewhat pleasurable excitement resembling the effects of alcoholic intoxication. During the stage of delirium the pupil is contracted, and the vision is dim, blurred, and probably double.

In toxic doses the agent produces epileptiform seizures, trismus, loss of reflex irritability, and coma, more or less profound, after the period of intoxication. The action of the heart is enfeebled and finally arrested in the diastole ; the respiration is labored and stertorous ; the secretion of the salivary glands is increased ; the surface of the body grows cold, and death takes place from failure of the heart. On the brain it probably acts in two ways : first, stimulating the cells of the gray matter, and then paralyzing them, the organ being in a state of anæmia, on account of the enfeebling effect of the agent upon the heart. On the eye it causes spasm of the accommodation and marked myosis by stimulating the *motor oculi*. The secretions, and especially the salivary, are increased by muscaria, and, according to Prévost, the bile, the pancreatic and the urinary secretions are stimulated by it, an effect which is probably due to the action of the drug upon the end organs of the nerves. The cardiac movements are at first slightly accelerated, and shortly afterward retarded by it, and a marked decline in the blood-pressure is an invariable result, after a short preliminary increase in it. Muscaria would seem to act on the motor ganglia of the substance of the heart, and not on the muscle or the inhibitory apparatus. The respiration is quickened during the stage of excitement, but is afterward retarded and rendered shallower by the paralyzing effect of the agent upon the respiratory centres.

No antagonism could well be more exact than that between muscaria and atropia. As regards the brain, the intoxication with cerebral anæmia caused by the former is opposed by the delirium and cerebral hyperæmia resulting from the latter. The contraction of the pupil caused by muscaria, by its stimulating effect upon the circular fibres, is opposed by the dilating influence of atropia, due to its stimulating action on the radiating fibres. The effect of atropia is relatively more powerful, however ; for when the pupil is dilated by the action of the latter, it cannot be forced to contract by the use of muscaria. The salivary secretion is increased by muscaria, which stimulates the end organs of the nerves in the glands, while it is arrested by atropia, which paralyzes these nerves. The antagonism is very striking in regard to the heart, as I mentioned in my first lecture ; for if the organ is arrested in diastole by muscaria, it is started again by atropia. Not less marked is their opposed action on the respiratory function ; muscaria gradually rendering the respiration less and less frequent and deep, and finally arresting it, while atropia stimulates it.

I next call your attention briefly to the antagonism between

ATROPIA AND QUINIA.

Pantelejeff, who made the only systematic series of experimental investigations concerning the opposed action of these agents, has found that quinia arrests the heart in diastole, and the subsequent use of atropia causes it to resume its action. This result he observed both in rabbits and frogs. There is abundant clinical experience in regard to this antagonism, but this does not concern our present purpose. He also ascertained that contraction of the arterioles was caused by the injection of quinia, and dilatation by that of atropia, and that quinia caused a rise in the blood-pressure after a brief preliminary fall, while atropia retarded it. (The lecturer, after speaking briefly of the antagonisms between atropia and bromal hydrate, and between atropia and aconite, concluded as follows:)

One of the triumphs of modern organic chemistry is the reconstruction by synthesis of organic alkaloids, the physiological demonstration confirming very strikingly the accuracy of chemical methods; and not less interesting is the demonstration that apparently different alkaloid principles obtained from different sources are the same. Thus atropia, daturia, and hyoscyamia are all found to be identical in chemical composition. The new mydriatic duboisia, with the exception of its more prompt and transient effect upon the pupil, its less irritating action on the conjunctiva, its less deliriant and greater hypnotic power, appears to have just the same physiological effects as atropia, and the late researches of Ladenburg seem to prove that it is identical with hyoscyamia. Throughout the whole range of the antagonisms of atropia, duboisia might be substituted for the latter, and the facts true of atropia are likewise applicable to duboisia and to hyoscyamia. Special researches have been made in regard to the antagonisms of duboisia, and thus in a short time after its introduction to professional notice this agent is as fully understood in respect to its powers and uses as belladonna after centuries; but the one is studied by the modern physiological method, and the other, coming down with vague traditions and baseless theories, is only properly understood at last when the progress of physiological research enables new investigations to conduct to right conclusions.

Original Communications.

EXTENSION AND A NEW METHOD FOR ITS PRODUCTION.

By CHARLES F. STILLMAN, M.D.,

NEW YORK.

The subject of extension is one of vital importance to surgeons, since upon its correct understanding and application depends the arrest of inflammatory processes in joints. At present the profession is divided as to the necessity of extension, its opponents embracing many of our most eminent authorities, and its advocates being also numerous and influential.

I propose in this paper to touch as briefly as possible upon some of the more important features of the subject, defining the true significance of extension, stating the reasons why each of the systems at present used for its production are not universal in application, and advocating a new system founded upon heretofore unrecognized principles and applicable to every joint.

Rest is universally conceded to be the chief desideratum in the curative treatment of inflammatory conditions of joints, but *complete rest of a joint is never obtained during life without the employment of a correct extending apparatus.* The most perfect type of a joint in a state of rest is the joint of a corpse, or, in other words, a dead joint. This is mobile and relaxed. Now, what factors have been eliminated by death to produce this condition of rest? These are:

1. The disappearance of contractile power in the muscles governing the joint, and
2. Relief from superincumbent weight.

Every joint of the body is so constructed that the muscles governing that joint have their origin above and their insertion below it, and these muscles possess a persistent opposition to one another which must be exactly balanced or distortion occurs. The contractile power of these muscles is therefore constantly striving to keep the balance of power exactly even in every posture of the body, and as this is involuntary, it cannot be subdued, so long as functional life exists in a muscle, without the use of an extending appliance.

The joint of a corpse after cessation of the rigor mortis is already in a state of extension, as both the weight of the body and the contractility of the muscular fibres have ceased to be factors in holding the articular surfaces together, which are only prevented from falling apart by the ligamentous and non-contractile structures.

Therefore the numerous experiments which have been made to demonstrate that extension cannot exist, and which have invariably been made upon the dead body, are entirely unreliable, as the joints were already in a state of extension, *i.e.*, of complete rest or relaxation, and beyond this the inherent ligamentous strength of the joint does not readily allow of stretching, if it indeed would not prove to be positively injurious, by interference with the ligamentous structures and supports of the joint. The amount of extension then, which any extension or stretching apparatus should allow, is just sufficient to produce the relaxed condition found in the dead joint and no more.

It is certainly impossible to obtain even a minute separation of the contiguous articular surfaces unless this muscular contractility be first overcome. When this is done, the relaxation which follows prevents the opposing surfaces from being jammed too closely together, and allows a scarcely perceptible separation of the surfaces of a joint; but the extent of this is wholly dependent upon the inherent strength of the non-contractile structures of the joint.

It is not, then, as many of our leading surgeons suppose, and which has brought the practice of extension into such disrepute, the bones or ligaments of a joint which we should attempt to extend. The bones cannot be pulled apart more than they are in a dead joint by any extending power we ought to use, unless the ligaments are in badly diseased condition, and to do so then is "bad practice."

This function which the muscles possess of keeping the joint-surfaces closely in contact at any angle during health is abnormally increased in inflammatory conditions in direct proportion to the acuteness of the process.

Suppose, for instance, the articular surfaces from some exciting cause become irritated, and effusion takes place. By this effusion the individual fibres of the muscles are put still more upon the stretch, and in consequence the contractile force of the muscles is involuntarily excited to press the opposing articular surfaces still closer together.

As a result of the increased irritation we have still further effusion, with its involuntary reflex muscular contractions (which fix the joint rigidly), and injury to the articular surfaces, and finally, implication of surrounding tissues.

Therefore, in order to overcome this primary irritation of the joint, we must overcome the contractility of the muscles governing the joint, and also relieve it from weight, in other words—place it in the relaxed condition of a dead joint.

There is one more feature of a dead joint whose importance we have failed to recognize in treating inflammatory condition, and that is its *mobility*. When effusion takes place—for instance, in an acutely inflamed knee—the limb immediately begins to flex in proportion to the acuteness of the attack and amount of effusion, as in this position the balance of power is most easily maintained. But this flexion is graduated by the course of the inflammatory process, and it varies constantly, according to the ever-varying amount of effusion in and about the joint—its period of increase corresponding to the increase of effusion, and its period of decrease corresponding to the decrease. It is then in a state of constant variation.

We have already noted the fixation of the limb as a consequence of the contractile irritation of the muscles induced by inflammatory action—but this fixation continues through all the degrees of flexion, acting as a protector for the joint, with especial power to prevent lateral deviation from the vertical axis—and, therefore, if by an extending appliance we subdue the contractility of the muscles we must have it so arranged as to produce this lateral protection for the joint which ceases with the muscular contractility.

Our model extension splint should then combine among its qualifications the power to:

1. Overcome contractility of the muscles.
2. Relieve superincumbent weight.
3. Afford support to the joint at every angle the limb may take, adapting itself automatically to all degrees of flexion.
4. Allow any degree of flexion, in other words, it should provide a false joint which would perform the functions of the affected one, and give it absolute *rest* by producing a symmetrical extension of the muscles which govern it.

We have already stated that the surgical profession is now divided on the question of extension—one party opposing its practice, and the other advocating it. The former try to produce rest by encasing the joint in a splint which will fix it immovably in a desired position, and prevent the movements due to irregular contraction of any one set of muscles in its efforts to preserve a balance of power.

This plan of treatment is insufficient, since the inherent contractility of the various muscles is not reduced to a degree in which the articular surfaces are prevented from pressing strongly against each other, and no motion is allowed. The more efficacious of these splints are made of plaster-of-Paris, felt, and allied substances, which adapt themselves perfectly to the form of the limb, and yet are rigid and unyielding.

Some surgeons also try to produce rest for a joint by having the supine position assumed.

This, alone, is not sufficient, because:

1. The contractile force of the muscles is aroused by irritation in a joint, and if there be no properly devised and applied extending power to overcome this, the inflammatory process is destined to increase.
2. The supine position relieves superincumbent weight, but does not reduce the contractility which is the chief factor to be subdued.
3. The general health is apt to suffer.

The advocates of extension have heretofore chosen methods for producing it which may be classified under *three* different systems, which I will here briefly describe, and will also detail a *fourth*, which presents many new points for consideration.

These systems are known respectively as "Hutchison's method," "Buck's extension," and the "long splint."

Let us glance at their most important features.

The practice of swinging the affected limb (see Fig. 1) is one of very ancient date, and is again coming into prominent notice through the advocacy of Prof. Hutchison of Brooklyn. Bearing in mind the two main features to be overcome, viz., the persistent contractility of the muscles and the superincumbent weight, it will readily be seen that to combat these we have but one factor—the weight of the part below the joint—and even this ceases when the body assumes a supine position.

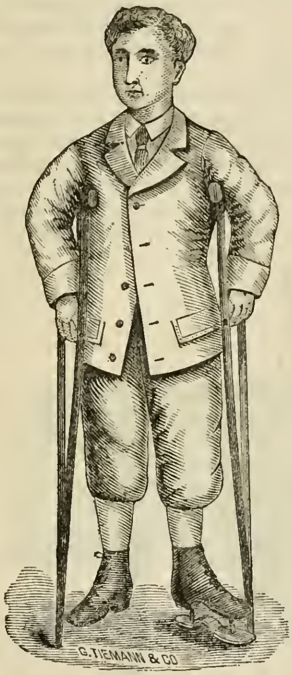

Fig. 1.

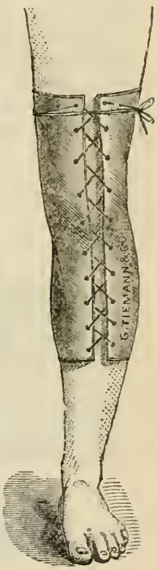

Fig. 2.

The superincumbent weight is to a great extent taken off (from a knee- or hip-joint, for instance), in the swinging or Hutchison's method, by the use of crutches, but the contractility of the powerful muscles which control either of these joints is but little affected by the weight of the part below it, for it is the natural function of these muscles to lift and swing the part below. Then, too, since the contractility is not subdued, the opposing inflamed articular surfaces are not prevented from being jammed together, producing the reflex train of symptoms already described, and in less acute cases does not prevent pain and involuntary startings.

Then, again, the lateral mobility allowed by this system is harmful unless the contractility be first overcome, and to remedy this, splints are moulded upon the joint (see Fig. 2), but these afford support only in the position in which they are placed, and do not admit of variable flexion, which is of great importance to the proper restoration of function.

Hutchison's method, then, does not produce complete rest for a joint, because: 1st, it fails to control the persistent muscular contractility, and therefore fails to prevent the opposing surface from being jammed together; 2d, it does not allow flexion; 3d, it only partially relieves superincumbent weight.

Its advantages are, that its partially relieved superincumbent weight supports the joints in any given position, and does not confine to bed.

Another system, which has been generally recognized as being of great value, is known as "Buck's," from its prominent advocacy and introduction by the late Dr. Gurdon Buck, of New York. It consists in the suspension of weights from a limb, the counter-extension being produced by placing the body upon an inclined plane, or attaching a perineal band to the headboard by a cord (see Fig. 3). It acts as an extender by increasing to a great degree the amount of weight below an affected joint, the natural amount of weight being, as we have seen, controlled by the contractility of the muscles.

It produces extension and combats this contractility certainly, but it does so by impairing the entire muscular structure of the limb, for by placing this upon a prolonged stretch, the muscles lose in contractile power, not only those governing the affected joint, but also those governing other joints in the limb. Added to this the patient is obliged to lie in bed to the great detriment of the general health. Then again, as effusion in a joint increases, the limb must flex or severe suffering be induced. It is not physiological, therefore, to retard this flexion which the extra weight upon the part below would be likely to do.

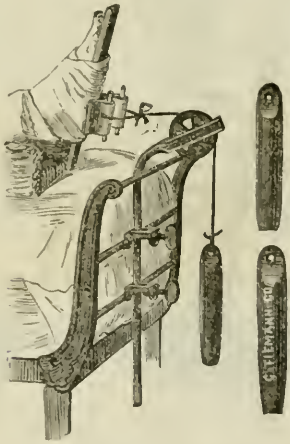

FIG. 3.

Buck's system, then, does reduce the contractility of the muscles, and relieve superincumbent weight; but while not entirely preventing, it tends to limit flexion.

Therefore among its disadvantages may be enumerated: 1st, limited flexion; 2d, confinement to bed; 3d, application confined to a few joints; 4th, necessity of a perineal band; 5th, lack of lateral support; 6th, extension affects the entire limb, and is not confined alone to the affected joint.

A third form of extension appliance is the "long splint," or straight extension splint, which is fixed to the foot below and the hip above, with the help of a perineal band, the extension being produced by a ratchet, located between these points, which forces the extremities further apart (see Fig. 4).

This causes extension in the straight position, but is open to the same objection as "Buck's," viz., that it extends the entire muscular system of the limb, and has the additional fault of not producing it in the vertical line, the foot being thrown inward in proportion as the extension power is exerted.

It relieves superincumbent weight, and possesses the advantage over "Buck's" of not confining the patient to bed. It is, however, inferior to it in the fact that it entirely prevents flexion, and thus tends to produce anchylosis by causing prolonged fixation in a straight position.

One of the reasons why a straight extension apparatus is of little use in subduing inflammatory conditions attended with swelling or effusion, is because the extension power is not exerted in the axes of the limb at right angles to the transverse muscular fibres; for as the joint begins to fill, the limb begins to flex, and, taking the knee for example, the extension is not directed in the proper axes of thigh and leg.

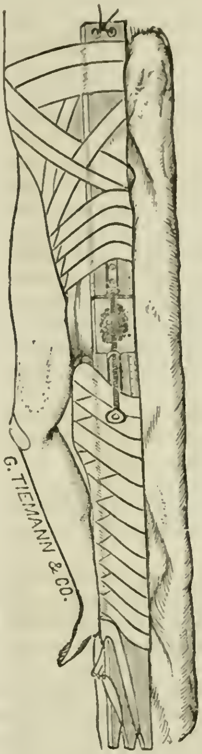

FIG. 4.

Then again, unless the limb can be put in a straight position, the splint cannot be applied, so that its range of application is limited.

In enumerating the disadvantages, then, of the long splint as a method of extension, we may include: 1st, extension in only the straight position; 2d, extension of the entire muscular system of the limb; 3d, extension not produced in the vertical line; 4th, prevention of flexion; 6th, oblique attachment to the entire muscular system of the limb by adhesive plaster; 7th, necessity of a perineal band; 8th, application confined to few joints.

Its advantages are, that it, 1st, relieves superincumbent weight; 2d, produces extension in a straight position of the limb; 3d, affords lateral support to the joint; 4th, does not confine to bed.

The long splint embodies the principle, variously modified, upon which are based the forms of apparatus now most in use for direct extension in cases of joint diseases. Its many modifications bear the names of their advocates, and while in this article we avoid a discussion of their individual merits, we must remember that one leading feature has been frequently enunciated, *i.e.*, that they produce extension by effecting a separation between the bones of a joint. Now, the writer of this article believes and has endeavored to demonstrate that extension means prevention of opposing surfaces from being jammed into immediate contact, thus producing the state of rest found in a dead joint, and that so long as pressure is thus removed, it is not necessary to forcibly separate articular surfaces, and a glance at any of our instrument catalogues will show that only those splints have survived the test of experience and come into general use which are attached to the muscles governing the affected joint, throughout their entire length, by adhesive plaster, and all those appliances attached only at the foot and hip have been discarded.

The method of extension which it is one of the aims of this paper to lay before the profession is based upon the proposition that we should endeavor to effect a complete reduction of the contractility of muscles affecting the inflamed joint without diminishing their vitality, relieve superincumbent weight, and yet allow all necessary motion.

This can only be produced by an extension splint which adapts itself to every angle the limb may take, and so firmly and rigidly attached just above and below the joint that, by counter-pressure against the bulk of muscles above the joint, the fibres between the two attachments are forced to lie in a relaxed condition, thus affording the joint rest by transferring to the extension splint the task of combating the contractile tension of the muscles and bearing the superincumbent weight.

This counter-pressure is effected by pushing the muscular mass away from the joint by the segment of a hollow rigid cone, until the inherent contractile resistance of this muscular mass governing the joint is entirely neutralized by the power exerted by the extender.

The two fixed points for extension by this method are gained through the neutralization of the muscular contractile resistance by the extension exerted and by a firm attachment to the limb over the insertion of the muscles (so that the extending force will always be directed toward their origin); and thus the only part of the muscular system of the entire limb which becomes relaxed is that lying between the two attachments, immediately over the joint (see Fig. 5).

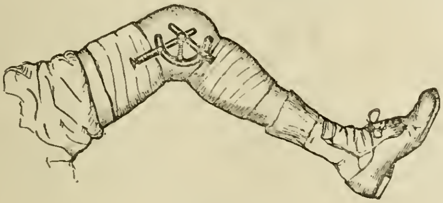

Fig. 5.

We have a simple splint in surgery which will meet all these various indications. I devised it some two years ago, and have since faithfully tried it in every form of disease that I could obtain and on every joint, and each case seems to develop new possibilities.

It consists of two slotted strips connected to a slotted sector by three clamps, and can be readily inserted into any form of attachment.

I have given it the name of the "Sector splint," and its construction is such that it enters as a curative element in every known form of joint disease. If properly attached—and no joint splint is properly attached if it be not fastened so as to directly oppose the power of the muscles controlling the joint—it is capable of the following combinations without removal from the limb:

1. *Extension at any angle with motion*, the degree of which may be exactly limited. This is the only splint known by which this can be produced.
2. *Extension* at any angle, with *fixation*.
3. Exposure of the entire surface about the joint, admitting elastic compression, hot and cold applications, blisters, dressings, and easy inspection.
4. Production of passive motion when required.
5. The production of elastic extension, with motion, by the addition of appropriate rubber cords. This alone opens up an entirely new and useful field which will be treated of in a subsequent article—combining, as it does, support, extension, and elastic education of muscles with deficient power to which so many of our deformities are due.
6. Gradual reduction of deformities and anchyloses.

Now as regards the attachment of the sector splint. The sector may be readily inserted into any form of brace attachment known. But when it is desired that the splint should remain upon the limb for any length of time, or, as in acute inflammation of joints, where it is used to reduce the contractile antagonism of the muscles, I prefer to use it in the form of a bracket, which is to be attached to the affected part by some immovable dressing, which will be sufficiently inflexible to prevent unequal pressure upon the soft parts.

The sector bracket consists of two terminal plates of thin copper, perforated upon the upper side, connected with each other by a sector bridge raised to any desired distance from the surface. This bridge consists of two overriding slotted steel strips, connected by three clamps which may be either thumbscrews or key-clamps. To this has been added a ratchet upon the upper bar for further increase of extension without alteration of angle (see Fig. 6).

With regard to the attachment of this bracket, I prefer my combination dressing of swans'-down adhesive plaster and flour paste, to the plaster-of-Paris so much in vogue, because: 1st, it is much lighter; 2d, it is more cleanly; 3d, it adjusts itself as perfectly to the surface, and has no subsequent expansion or contraction in bulk—one of the chief demerits of plaster-of-Paris; 4th, its adhesive properties.

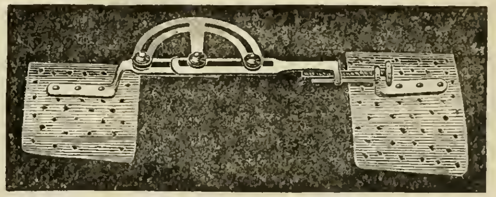

Fig. 6.

For example. Suppose the knee to be the affected joint upon which the sector splint is to be applied with this dressing. When dry, this dressing forms the segment of a hollow inflexible cone which has firmly grasped the muscular structures above and below the joint—the smaller end of the cone being nearer to the joint—and thus any extensible force which pushes these segments farther apart acts directly antagonistic to the inherent strength of the muscles—causing them to assume less bulk, without reducing their vitality in the least or interfering with their capillary circulation, and since one segment is over the bulk of the thigh muscles and the other segment is unalterably fixed over their insertion just below the knee-joint and for a little distance beyond the convexity of the calf-muscles (as some of the fibres of the thigh tendons are finally lost in the fasciæ of the leg), it will be seen, when extension is produced (by pushing up the upper strip of the sector and fastening the upper clamp, leaving the other two loose, thus allowing motion), *that the reflex contractility of the muscles of the joint, and the weight* are both transferred to the sector and its attachments, thus placing the joint in the very best possible condition for recovery by making it to all intents and purposes a dead joint (see Figs. 5 and 7).

This splint justly claims to be not only applicable to every joint, but also applicable to fractures and diseases in the continuity of bones.

It is at present in the infancy of its development, but enough has been demonstrated by its various uses to show us that we have in it an unprecedently successful splint in all diseases and conditions of joints.

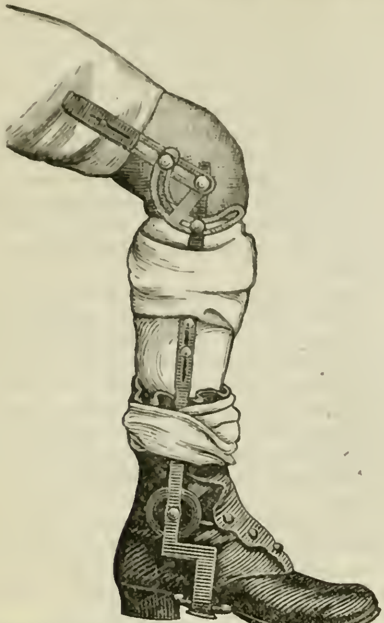

FIG. 7.

104 WEST THIRTY-FOURTH STREET,
October 1, 1880.

CLINICAL OBSERVATIONS IN OPHTHALMIC PRACTICE.

NOTES READ TO THE ACADEMY OF MEDICINE AND SURGERY IN THE POLYTECHNIC SOCIETY OF KENTUCKY.

BY PROF. DUDLEY S. REYNOLDS, M.D.,
LOUISVILLE, KENTUCKY.

CASE I.—On the 27th of July, Burton Wilkes, a lad aged sixteen, was struck in the right eye by a No. 5 shot projected from a gumbo-shooter in the hands of a boy forty yards distant. The shot struck the nasal margin of the cornea and passed under the inferior retro-tarsal fold. I was passing the street at the time, and being observed by the boy's father, was halted and requested to examine the eye. Less than fifteen minutes after the receipt of the injury the anterior chamber was filled with blood. The cornea at the nasal margin was depressed and looked as though it had been perforated. Careful examination, however, showed that it had not. I ordered a solution of atropia and directed the boy to bathe his eye in cold water.

The next morning there was considerable tension of the globe, the ocular conjunctiva being suffused, lids œdematous, intolerance of light, circumorbital pain, the anterior chamber still being full of blood. The pulse was 120; the tongue dry; temperature, 102°. I ordered five grains each of calomel and chlorate of potash to be taken at once, and twenty grains of quinine to be taken immediately after the purgative effects of the powder.

July 29th the patient's general condition was much improved, the pain had disappeared, and the blood had commenced to undergo solution in the aqueous humor.

August 2d the clot had entirely disappeared, the aqueous chamber being perfectly clear. Careful examination with oblique light disclosed a circular depression in the surface of the crystalline lens, about half-way between its anterior pole and nasal margin. A circular opacity of the cornea, very near the scleral margin on the nasal side, marked the point of the former depression.

Radiating in every direction from the depression in the surface of the lens were to be observed opaque striæ, $S=\frac{20}{xxx}$. It was not known at this time that the shot had lodged in the inferior retro-tarsal fold, nor was its presence there suspected until August 21st, when I accidentally depressed the lower lid with my finger, and the shot rolled out. It had created no irritation—remaining from the 27th of July to the 21st of August, all the while in contact with the delicately organized mucous membrane, the shot being eroded and no sign of irritation of the membrane present.

CASE II.—A negro boy, fourteen years old, had been fighting, and was gouged in the eye by his antagonist. After the fight he was washing his face, and discovered that he was blind in the left eye. He suffered no pain, and the eye exhibited no evidences of contusion or other injury. Ophthalmoscopic examination disclosed a rent in the retina immediately surrounding the optic disk, extending more than three-fourths of the way around. None of the large vessels of the retina were ruptured, and that there had been no hemorrhage was evident. The traction had been so great upon the globe as to sever the continuity of the retina around the margin of the disk.

I saw him first on the 9th of August, and again on the 17th. No inflammatory reaction followed the injury. He has had no pain, the rent has widened, and the whole retina has assumed a milky haziness. It is scarcely necessary to mention that from the first he had no perception of light in this eye. I mention the case on account of its rarity, as well as the grave character of the injury, and the extraordinary immunity from pain and inflammatory symptoms.

CASE III.—A little girl, about eight years old, a bright child, playing with a fan, slipped and fell, the end of the fan striking her full in the eye. She complained of flashes of light, of many-colored spots floating before her, and was brought to my office for examination. I saw her twenty-four hours after the injury. The eye was watery, conjunctival vessels suffused, and the pupil widely dilated. I was at first unwilling to believe she had not been subjected to the influence of atropia or some other mydriatic. Ophthalmoscopic examination, however, revealed the startling fact that the retina was completely detached and floating loose in the vitreous chamber.

CASE IV.—A lady, about fifty years of age, of high social position, perfectly temperate, and pious in her habits, had for a long time suffered from an irritation in the throat which was greatly aggravated during the act of swallowing. The uvula was natural in appearance, except at its base, where an encysted tumor, causing an elevation of about two lines above the surface, appeared, perfectly ovoidal in form, and which had been growing slowly for more than two years. There was no local inflammation, but at every act of deglutition a tearing sensation upon the left side of the uvula was experienced.

I made an incision, and removed what appeared to be an encysted fibroid. Under the microscope it was readily seen that the encysted growth was composed, in the main, of steatomatous material, with an abundant supply of connective tissue. The removal of the growth was followed by considerable soreness and aggravation of the difficulty in swallowing for two or three days. On the 8th of August, four days after the operation, the local discomfort had entirely disappeared, and the act of deglutition was unattended by any disagreeable sensation whatever.

Case V.—Miss W——, aged about twenty-four years, suffered more or less discomfort in attempting to read, and especially at night, during the last seven or eight years, and had sought the aid of a dozen or more oculists, who made hasty examinations and prescribed glasses which were thought to be more or less comfortable for a time, but the sense of dryness, heat, and pain in the eyes, with the intolerance of light and the difficulty to trace lines, always returned on attempting to read at night.

She had more than two dozen pair of spectacles, not one of which gave immunity to the suffering. Recognizing this as one of the almost innumerable cases requiring very careful examination, I ordered a four-grain solution of atropia to be dropped into the eyes every morning and evening for five consecutive days. At the end of that time an attempt to test the state of refraction revealed the fact that the accommodative function was still exercised. The patient was directed to continue the drops for two days longer, and, on returning, the accommodation was still not fully suspended. Two more days—making nine in all—were employed in the persistent use of the drops both morning and evening. On the tenth day the accommodation was found fully suspended, and the following defects of refraction observed. In the right eye, hypermetropia = to $\frac{1}{36}$ was observed. In the left, hypermetropia = to $\frac{1}{72}$ in meridian 130°, and in the meridian at right angles to this hypermetropia = to $\frac{1}{36}$, thus disclosing astigmatism in the left eye = to $\frac{1}{72}$. She had been using $+\frac{1}{36}$ for both eyes, with little improvement to her vision, and no immunity from the suffering. On correcting fully all the defective refraction observed, she has been able to make continued use of her eyes for writing all day, and almost constant reading for two or three hours at night, with perfect freedom from pain or any sort of discomfort. I report this case to show that asthenopia of a very troublesome character demanded the correction of an astigmatism existing in one eye only, and equalling but $\frac{1}{72}$, whereas it is taught by Donders and others that astigmatism of less than $\frac{1}{40}$ is of no particular significance, and never requires correction. It has been my constant habit, for more than ten years, to make full and complete correction at once in all cases of hypermetropia, and to correct the least grade of astigmatism observed in reading Snellen's test-letters. These I regard as affording a more practical and delicate test of defective refraction than any of the numerous devices of radiary lines, not excepting Pray's test of letters, formed of sections of lines running in different meridians. It is a more practical way of testing astigmatism than with the optometer of Thompson, Graefe, or Young.

The relief obtained by Miss W——, whose case I report to illustrate a class by no means rare, is conclusive argument against the doctrines of Donders and others who regard low grades of astigmatism as unworthy of notice.

LARYNGOTOMY FOR MEMBRANOUS CROUP.

Operation after Cessation of Respiration—Death from Accidental Asphyxia Five Days after Operation.

By ALFRED NORTH, M.D.,
WATERBURY, CONN.

Louise Miller, aged eleven years, born of healthy parents, was brought to my office on the afternoon of February 18, 1880. The only subjective symptom of which she complained was intense dyspnœa. Pulse, 110; temperature, 103°. Auscultation showed moist bronchial râles on both sides; respiratory murmur feeble, especially on left side; and other evidences pointing to congestion of left lung. Ordered a mercurial cathartic; quinine, ten grains, an expectorant mixture, and steam inhalations.

February 19th.—Was unable to see the patient again until 7 p.m. to-day, when I found her breathing very laboriously, face dusky, and apparently very little air entering either lung. Respiratory murmur very feeble; percussion sound moderately dull over both lungs, especially so on left side. She was lying, and it seems had lain since my seeing her yesterday, in front of a window where a draft of air was distinctly to be felt. Caused her to be moved to a large, well heated and ventilated room, and ordered the steaming to be more vigorously kept up than ever. 10 p.m. called again, and found her breathing still more labored, so much so that I feared without surgical interference she would die from asphyxia before morning. I therefore urged the necessity of laryngotomy, but the consent of the parents could not be obtained.

February 20th.—I went away so sure in my convictions that death would ensue during the night, that I did not call to-day until about 10 a.m., when I was summoned by the message that she was dying. I found this was indeed the case, and urged upon the parents the necessity of an operation as the last resort. Consent being at last obtained, the patient was laid upon the table and preparations speedily made. While deliberating upon the best point at which to open, respirations suddenly ceased entirely. Artificial respiration was immediately commenced and kept up by Dr. Barbour, who was assisting me, and, without more delay, the knife was entered and the larynx opened through the crico-thyroid membrane. This procedure was followed by the forcible expulsion through the opening of a large amount of muco-purulent matter, which was so tough and tenacious that much of it, after being forced nearly through the opening, would be drawn back during inspiration, unless retained by the sponge. Some minutes were thus occupied before time could be found to introduce the tube. Again respiration ceased, and this time the pulse was wholly lost, both at the wrist and cardiac apex. Both, however, were soon restored on resuming artificial respiration. There was so much trouble in the expulsion of the tenacious mucus that a suction-pump was applied to the tracheotomy-tube, and with each withdrawal of the piston the face brightened and the former dusky hue rapidly disappeared.

No anæsthetic was employed. As patient was insensible through asphyxia, there was little or no hemorrhage, a few drops of blood only being lost. The double canula was used and secured by a tape in the customary manner. Respiratory murmur was now heard over both sides of chest. 5 p.m.—Six hours after the operation, the little patient is laughing and feeling very happy at her deliverance from suffocation. Respiration easy, but more rapid than normal. Seldom has it been my lot to see so great a change produced in so short a time by any operative procedure.

February 21st, 8 A.M., twenty-four hours after operation.—Patient passed a restless night. The bronchial secretion appears to have almost entirely ceased, and a dry, nearly continuous cough annoys patient exceedingly. Temperature, 103°; pulse, 120; respiration, 40. Slight dulness on left side, and diminished vesicular murmur. Soft mucous râle on right side. Refuses all nourishment. Discontinued the use of Weir's steam atomizer, which up to this time had been constantly employed, and in its place used ordinary steam from an improvised apparatus. Covered the entire chest with a lye and bran poultice, and ordered milk and brandy. 10 P.M.—Patient a little easier; bronchial passages less dry, but very little secretion thrown out. After using the simple steam for two hours a return was made to the atomizer at the patient's request, as it gave so much more relief.

February 22d.—Patient much more comfortable this morning, sleeps well, and breathes quite naturally through the tube. Temperature, 100¾°; pulse, 110; respiration, 21. Desires and takes all the nourishment necessary. During the night forced through the tube several pieces of hard, partially desiccated mucus, about half the size and thickness of an ordinary peanut.

Bowels moved three times during the night. Atomizer steadily used; patient soon becomes very restless when its use is interrupted. Cannot get breath when the tube is closed by the finger.

Monday, February 23d, 7 A.M.—Patient has passed quite a comfortable night, sleeping frequently for half an hour at a time. Temperature, 102°; pulse, 118; respiration, 30. 11 A.M.—Was hastily summoned to find the patient tossing from side to side and laboring very hard to breathe, very little air entering the lung. In considering what to do, a case occurred to me that came under my observation in 1864. The case was one of diphtheria in which, to prevent impending asphyxia, tracheotomy had been done. After a time, as in the present case, the accumulation in the trachea and bronchi seeming likely to cause a fatal result, in order to provoke coughing the bronchial passages were washed out with a solution of salt and water. The procedure was very successful, a large piece of membrane and much tenacious mucus being ejected, from which moment the child began to mend. I therefore at once resorted to this measure, using a solution about the strength of sea-water. With a long, curved rubber syringe I threw in about half an ounce. Violent coughing immediately ensued, during which membrane and large pieces of tough, inspissated mucus, resembling glue in texture and appearance, were thrown off. The operation was repeated in a few minutes, and was followed by a like result, after which the patient fell back and slept quietly for half an hour. For the first time to-day some of the nourishment given found its way into the trachea and was thrown out through the canula. At first I feared this might be caused by the canula sloughing through into the œsophagus, but subsequently found was to be due to the paralysis of the laryngeal muscles. I now directed that nourishment should be given per rectum, beef-juice and pancreatic emulsion being employed for the purpose; brandy and quinine administered in the same way.

The bronchi required to be washed out repeatedly—each washing followed by the expulsion of membrane and mucus as before, and by great relief from dyspnœa for five to six hours. When the passages became obstructed and the breathing difficult, the child would herself call for the salt and water.

February 25th.—At my usual morning call I found the patient sleeping so quietly that I did not awaken her. She seemed to breathe so easily and appeared so well that nourishment was again attempted by the mouth. A portion of this passed into the larynx and bronchi. Severe dyspnœa immediately ensued. I was hastily summoned, but found myself powerless to relieve the trouble, and thus, in the space of an hour after her quiet sleep and hopeful appearance, on the fifth day after the operation, she died of accidental suffocation.

Post-mortem, made the following day. The epiglottis standing erect, the larynx lined with a thin, diphtheroid membrane; the trachea below congested, but having no membrane, presented an appearance suggesting the probability that a membrane had recently been thrown off.

Permission to examine the lungs could not be obtained. The left one I believe to have been affected with catarrhal pneumonia. The practical lessons to be learned from this case I consider to be:

1st. That after operations upon the larynx or trachea, where the nourishment given regurgitates into the air-passages, rectal alimentation should entirely supplant feeding by the mouth.

2d. That, as is indicated in this case and proved by experience in innumerable others, the operation is in itself not a dangerous one, and must of itself be exceedingly rarely, if ever, a primary cause of death; therefore, we should undertake it far oftener than is at present done in this country, especially in children dying from suffocation in simple croup. That even the nearly total absence of vesicular murmur need not render the case hopeless, for in this instance the murmur returned as soon as the opening of the trachea admitted sufficient air to expand the lung.

I have a case in mind where I now regret exceedingly not having operated, in which I was deterred at the time mainly by the almost complete absence of vesicular murmur over the entire chest.

Dr. Leale recently reported a successful case to the Academy of Medicine in New York, where the false membrane had filled the larynx, penetrated to the small bronchi, as well as extending down the œsophagus into the stomach.

The benign and simple nature of the operation may give us confidence that, even in those cases where we do not save life, at least we have done no harm. Furthermore, even when a fatal result ensues, something has been gained, for, as Dr. Gross says, "it is the easiest way for the patient to die." Although the laryngeal tube was employed in this case, I would avoid its use wherever practicable, and thus do away with the irritation which its presence is liable to cause.

A plan for doing without it was, I remember, prominently brought forward by Dr. Henry Martin, of Boston, in a paper upon the subject read before the American Medical Convention in 1872. He had employed this plan for sixteen years with very favorable results, being first obliged to do it in a desperate emergency, when he had at his command only an ordinary thumb-lancet and a needle and thread.

His plan, in brief, was, after making the opening into the trachea, merely to stitch together the outer and the inner margin of the wound with a single thread on each side, draw the wound sufficiently open by these threads, and keep it so by fastening their ends to a rubber plaster passed about the neck.

As to the time of operation, I would not recommend so early a resort to it as is advised by most French surgeons; not necessarily waiting, either, till the case had become almost or quite hopeless; but, after a fair and thorough attempt to relieve by other means steadily increasing dyspnœa, I would proceed to operate, feeling sure that if this were generally done, many cases might be saved which we now allow to die.

Reports of Hospitals.

BELLEVUE HOSPITAL.

Notes of Practice and Peculiarities of Treatment.

PNEUMONIC FEVER—ACUTE LOBAR PNEUMONIA—ANTIPYRETIC TREATMENT BY THE USE OF COLD.

The case of pneumonia seen was interesting, espepecially with reference to the method of treatment. A male patient, aged twenty-one years, a cooper, and a native of the United States, was admitted to the hospital September 29th, without important family history. He had had intermittent fever more or less during the last three months, and also had been dissipated in his habits. During the week immediately preceding the present attack there *was no recurrence* of the chill, and he felt well. On the 26th he had a short, severe chill, and naturally enough his first thought was that it was the beginning of another paroxysm of intermittent fever. The chill was followed by vomiting, fever, and a sharp lancinating pain in the left side, in a circumscribed space near the nipple. To the fever and pain were added cough, and he soon began to expectorate. On admission he still complained of pain in the side, shortness of breath, severe headache, and a general feeling of illness. His countenance was anxious, his face flushed, his respiration accelerated and panting, his pulse 120, his temperature 104½° F., and he was expectorating distinctly rusty material. On physical examination there were found over the lower lobe of the left lung increased vocal fremitus, dulness on percussion, broncophony and pectoriloquy. The last physical sign is not common with simple solidified lung. On the next day after admission, September 30th, his temperature in the morning was 104° F., and at 12.30, 105° F., and then he was placed in the cold, wet pack—that is, the body, nude, was wrapped in a wet sheet, which was sprinkled with cold water at short intervals. He remained in the pack two hours and fifteen minutes. It was agreeable to the patient, and he subsequently called for the pack at times when its use would not have been advisable.

At 2.30 P.M. his temperature in the axilla had fallen to 103° F., and at 2.45 P.M. to 102° F.—a good illustration of the fact that the temperature sometimes falls considerably after the patient is removed from either the pack or bath. The rule adopted in this case was to resort to the cold pack whenever the temperature rose above 103° F. At 3.30 P.M. his temperature was 103½° F., and he was again put in the pack, where he remained an hour and a half, and his temperature was reduced to 101½° F. One hour subsequently, at 6 P.M., his temperature was again 104° F., and at 6.30 P.M. the cold pack was renewed, where he remained one hour and a quarter, when his temperature was 102° F.

October 1st.—Morning temperature, 100¾° F.; noon temperature, 104° F. At 12.15 P.M., 104¼° F., and he was again put into the cold pack. At 12.45 P.M. his temperature was 103¼° F., and at 1.15 P.M. it was 102° F. At 3 P.M. his temperature was 102¼° F., and at 6 P.M., without further antipyretic treatment, his temperature was 101° F. It was believed to be a fair suspicion that the malarial element in the case was exerting some influence on the temperature curve.

October 2d.—Morning temperature, 102¼° F.; noon temperature, 103° F. Temperature at 3 P.M., 102° F., and at 6 P.M., 101¼° F.

October 3d.—Delirious, and succeeded in getting out of bed once. Morning temperature, eight o'clock, 103¼° F., and he was put in a pack, where he remained an hour and a quarter, when the temperature was 103°. At 9.30 his temperature had fallen to 100¼° F.; at 12 M. it had again risen to 102¼° F. At 3 P.M. his temperature was 102° F., and at 6 P.M. 101¼° F.

October 4th.—Delirious through the night. At 8 A.M. his temperature was 99¼° F.; at 12 M. 98½° F., and *râles redux* were heard distinctly. At 3 P.M. his temperature was 97½° F., and at 6 P.M. the same.

October 5th.—The treatment up to this date consisted of milk and eggs for food, half an ounce of whiskey every two hours (having been accustomed to the use of alcohol), carbonate of ammonia, *five* grains every two hours, and morphine sufficient to relieve the pain and secure rest. His temperature at 8 A.M. was 97° F. His expectoration on this date was mostly a yellowish mucus.

October 6th.—Morning temperature, 97½° F., and the evening temperature was the same. Urine normal. Evidence of resolution of the solidified portion of the lung well marked, although there was marked dulness on percussion, due to plastic exudation remaining. The tympanitic resonance from the stomach was propagated upward, and prevented the outlining of the intra-lobar fissure. The patient was regarded as convalescent.

NON PROGRESSIVE CIRRHOSIS OF THE LIVER—PLEURISY WITH EFFUSION—THORACENTESIS—RECOVERY—A SECOND ATTACK OF PLEURISY.

The following case presented two interesting features, one with reference to the liver and the other referable to pleurisy. A male patient, aged forty-two years, a barber by occupation, a native of Canada, was admitted to the hospital October 4th. His family history was unimportant. He had been accustomed to the use of alcoholic drinks. Five years ago he had acute articular rheumatism, and he had had syphilis. Four years ago—and here is one of the interesting features—he had ascites, with œdema of the feet, and a careful examination made in the hospital at that time reached the diagnosis of cirrhosis of the liver. Since that date he had not drank any stimulants, except occasionally a glass of beer, and had not suffered from *any* of the symptoms of the disease. He had been able to stop the use of alcoholics, and the cirrhosis had become *non-progressive*, and he was apparently free from any disease except the pleurisy, for which he came into the hospital.

Two years ago he came into the hospital with pleurisy in the left side, and he was tapped and ℥ lx. of fluid withdrawn. *He then fully recovered, and was* *able to work as well as ever* up to his present illness. Ten days before admission to the hospital he had a chill, and on the following day cough and sharp pain in his side, and he was so sick that he took to his bed. On admission, physical examination revealed evidence of pleurisy, with effusion on the left side. *There was no evidence of phthisis.* Diagnosis of pleurisy with effusion was made positive by the introduction of a hypodermic needle and withdrawing serous fluid. The quantity of fluid present was not large, and the chief item in the treatment was to put the patient's general nutrition in the best condition possible. A blister was not objected to, although it was not recommended.

Progress of Medical Science.

A Case of Chondromyxoma of the Uterine Cervix.—Dr. G. Reier demonstrated to the St. Petersburg Society of Russian Physicians specimens of an exceedingly rare form of malignant growth, the proper name of which should be myxoma enchondromatodes papilare s. arborescens. A case similar to this was also described by Thiede in *Zeitschr. f. Geburtsh. und Gynæc.*, 1877, Bd. i., H. 12. More recent case of Spiegelberg (*Arch. f. Gynæc.*, Bd. xiv., H. 2, p. 178) bears a strong resemblance to the two above. Patient was single, twenty-one years old. The tumor began to grow a brief period previous to May, 1874, as the first symptoms referable to the uterine disease appeared at the end of 1873. The growth gave rise to severe pelvic pains, profuse leucorrhœa, menorrhagia, and metrorrhagia, and to failure of general health. She was admitted to the hospital March 4, 1875, and a part of the tumor was removed then, the remaining portion six days later. Very soon the tumor made its appearance again, and a second operation was undertaken September 29th. Patient died the following day in collapse, with the symptoms of commencing peritonitis. Tumor, with the part of cervix removed with it, weighed 100 grammes, was of soft consistence, light color; the surface of its main portion was covered with small, round, secondary growths, having the general appearance of a bunch of grapes. Tumor was composed of myxomatous tissue, with cartilaginous nuclei distributed through its substance.—*Transactions of the St. Petersburg Society of Russian Physicians*, 1879–1880.

On Albuminuria and Peptonuria.—Dr. A. Dochman read a paper on the above subject before the Kazan Medical Society, the essence of which was that the presence of albumen in the urine is neither due to changes in the albuminoid substances of the blood, nor is always determined by the diseases of kidneys, being frequently absent in the case of the latter. Conditions determining its presence are as follows: 1. Increased pressure in the renal arterial system, causing static and active hyperæmia. 2. Various diseases—inflammations and degenerations of the parenchyma of the kidney, and of the entire urine-secreting apparatus. 3. Various febrile diseases—typhus, small-pox, scarlet fever, etc. 4. Various diseases of the brain and spinal cord (even mental excesses): inflammations, concussion, epilepsy. Here belongs also albuminuria, produced by diabetic puncture and the albuminuria of hydrophobia. 5. Poisoning by various substances: cantharides, carbolic acid, arsenic, morphia, alcohol, and phosphorus. 6. Irritation of the skin by chemical, thermic, and electric agents. Here belongs, also, the albuminuria of miliary fever. 7. Injection in the vessels, and even introduction of large quantities in the stomach of the white of the egg. Injection of defibrinated blood or water. 8. In some cases it appears in perfectly healthy persons; for instance, after forcible muscular exercises; also, in anæmic patients. 9. Ischæmia of kidneys, compression of renal artery, suffocation; here also is the albuminuria in cases of intestinal catarrh. Recent investigations prove, also, its occurrence if the arterial pressure is lowered in the vessels of Malpighian tufts (with the increase of pressure in the urinary tubes). 10. Diminished quantity of chloride of sodium in the system leads to the albuminuria, the same disappearing after quantitative restitution of this substance.

All these numerous agencies determine albuminuria, not directly, but by inducing, first, changes in the filtering apparatus, the walls of the vessels of Malpighian tufts (where the filtration of albumen exclusively takes place), changes of such a nature that permit the escape of albumen through them.

Peptonuria, which is the presence of peptones in the urine, with or without simultaneous presence of albumen, attracted considerable attention within the last few years. According to Maixner (*Cntbl. f. m. Wiss.*, 1879, No. 33), peptones are found in the urine in cases of profound disorders of general nutrition, such as acute phosphorus-poisoning and local morbid processes, of which number purulent processes and croupous inflammation of the lungs are invariably associated with peptonuria.

Dr. Dochman, as the result of very extensive analyses, arrives at the following conclusions: 1. Peptonuria is not a disease, *per se*, and is different from albuminuria. 2. Peptones of the urine do not come directly from the blood, but are the artificial products, developed outside of the circulation, in a minor degree, in the urinary tubes, but to the greatest extent after the urine is voided. 3. Peptones are the results of urinary digestion of albumen, a process analagous to the gastric digestion, and the existence of which is proved by the following facts: *a.* Brukke proved the presence of pepsine in urine a great while ago, and Potiechin (personal communication to the writer) recently found, also, peculiar substances of acid reaction. *b.* Transformation of albumen in peptones is retarded, if the urine, after being voided, is kept at the temperature of 0° C., or its acid reaction is neutralized by alkali. *c.* Urine, if it is alkaline when voided, contains only the traces of peptones, or none at all. In acid urine, containing a good deal of albumen, the amount of peptones increases with time, and at the expense of albumen.—*Transactions of the Kazan Medical Society*, 1880, April 8th.

Pathology of Oxalic Deposits and Stones in Human Urine.—As the result of a thorough study of this subject Prof. Schtscherbakoff arrives at the following conclusions: Freshly voided urine does not contain free oxalate of lime. Decomposition of an unknown compound group takes place, one of the products of which is oxalic acid. The latter displaces calcium from the lime combinations, forming with it an imperfectly soluble oxalate of lime. The same urine does not contain either oxaluric acid, so that it cannot be considered as the source of oxalic acid, and is also due to the decomposition of an unknown compound. As the substance from which oxalic acid is derived is readily decomposed by acids and substances of acid reaction, its formation is to e associated with acid fermentation of urine. Although acidity of urine is a necessary condition for he formation of both deposits and stones, there exsts a very important difference, as the former are lways colorless, while the latter are always of a dark olor. This fact indicates that the formation of stones can hardly be as simple a process as the formation of deposits. The nuclei of oxalic stones are always either urates alone or the mixture of urates and free uric acid, surrounding which is the layer of oxalate of lime. This layer always contains urates, its color is in proportion to the amount of the oxalate, and there is also iron, amount of which is in direct proportion to the quantity of oxalate and the depth of color. Analyses show also the presence in it of hematine (coloring matter of calculus). Hematine and iron strongly point to the fact that the formation of calculi is intimately connected with the effusion of blood. To enable the study of this point he produced the calculi artificially, by taking frog's blood in a vessel and pouring gently over it some human urine (with the addition of a few drops of carbolic acid), after the former gave a solid clot. As long as red corpuscles were not destroyed, no crystals of oxalate of lime were to be found. They appear with and in proportion to the disappearance of red blood elements. Usually, on the third or fourth day, portions of blood-clots can be easily found, containing not a single corpuscle, fibrine threads being profusely infiltrated with the oxalic crystals. The latter cannot be found in the urine above the clot, or in the same urine kept for comparison, even after three weeks. It would appear then that the formation of oxalate of lime depends upon the disintegration of red blood-corpuscles. But after a while the latter cease to break down, infiltration of the clot with the crystals stops, and yet the deposit of salts above it keeps on, showing that it is derived from the ingredients of urine and not from the substance of blood-corpuscles. This apparent contradiction he intends to clear up in the course of his present studies. He reports also the presence in the oxalic layer of cholesterin, and of crystals very closely resembling those of impure leucine. His studies would suggest then that the oxalic calculi are an accidental occurrence in the course of the formation of uric stones, depending upon the escape of blood, this accident being indicated by an oxalic layer, for the time-being the energy of uric growth is retarded, but not arrested entirely. When the disturbance produced by hemorrhage subsides uric process is resumed again and it continues until a new escape of blood occurs again. This theory gives account for all peculiarities, alternate laminated appearances of these stones included.—*Transactions of the Kazan Medical Society*, 1880, Nos. 8–12.

[We would like to have Prof. S.'s explanation of that rare form of oxalic stones which are perfectly white (renal stones)].

A Case of Rupture of Rectum with Anal Orifice and External Sphincter Intact—Recovery.—The patient, fifty-five years old, glazier by trade, suffered from rectal prolapse for the last twenty years. He carried a very heavy case, and crossing hurriedly a street he stumbled, falling on a prominent part of the pavement. He struck the abdomen with such a force that the bowel protruded, followed by a very severe pain in the rectum and a hemorrhage from the anus. Being taken to the police station a trained nurse replaced the prolapse. Hemorrhage ceased, pain lasted for five days, hypogastrium became tender, constipation occurred and fever ensued. On the fifth day he was admitted to the hospital. On examination the rectum was found ruptured to the extent of six inches, running across the anterior right wall of intestine obliquely from above downward and from before backward. The edges of the wound were gaping widely and very much infiltrated. As the result of injury phlegmonous inflammation of periproctal tissue occurred, also extending in ischio-rectal fossa, from which he recovered. Laceration of rectum healed also, and he left the hospital cured about seven weeks from the date of injury. As the result of inflammatory process around the rectum the prolapse was cured also. The mechanism of rupture is easily understood, if we compare the abdominal cavity to the cartridge chamber of a gun, the pelvis to the bore, and the rectum to the charge, with the difference that the rectum is attached by muscles and connective tissue to the adjoining parts, and its forward movement is arrested by adhesions, but as the force is great, the rectal tissue gives away.—*Meditz. Vestnik*, 1880, Nos. 410, 411.

Subcutaneous Emphysema occurring during Labor.—Dr. Lwoff finds only three cases of this condition reported in *Irish Hospital Gazette* for 1873, pp. 38, 165, etc. His patient, a primipara, was admitted to the Kazan University obstetric clinic on Feb. 8, 1880. She was a healthy, robust young woman, with normally developed parturient canal, and was delivered of a healthy child after normal labor. At the close of the first stage of labor Dr. L. observed that the patient's face grew puffy, her neck became very thick, so that all natural depressions on it disappeared, and the face grew cyanotic. Examination of the parts revealed very distinct crepitation, which was not superficial, but extended quite deep into the tissues. Emphysema extended to the insertion of platysma myoides and mastoid processes of temporal bones, and downward it reached to the third ribs. Posteriorly it did not extend beyond the anterior borders of trapezii. Patient complained of pain in the throat, slight cough, and difficult deglutition. On auscultation after labor breathing at the apices was found, harsh, but vesicular in character. Percussion of the chest normal. Breathing, at first 32 per minute, soon fell to 20. No dyspnœa. On the third day emphysema began to disappear and left no traces on the seventh. Patient left the hospital entirely well the following day.—*Meditz. Vestnik*, 1880, No. 34.

Olive-Oil in Large Doses for the Softening and Easy Expulsion of Biliary Calculi.—Dr. Roderick Kennedy, Kingston, Canada, has found olive-oil given in large doses to be the desideratum for softening and promoting an easy expulsion of biliary calculi. In the *London Lancet*, September, 1880, he says that in every instance in which calculi were proved, or presumed, to have been the cause of periodic suffering, these bodies were promptly and painlessly expelled in larger or smaller quantities by the use of *large* doses of olive-oil. Three cases are cited with the symptoms of the passing of gall-stones. All the usual remedies were employed, but no appreciable effect on the pain was obtained until the olive-oil was used; six ounces of the oil were administered at bedtime, followed in the morning by a full dose of castor-oil. When there was no action of the bowels an enema was given, which was usually followed by several copious motions containing softened gall-stones. The administration of the oil at intervals of a few weeks or months prevents the re-formation of the concretion for the time, but still the oil alone does not alter the causes or diathesis upon which the formation of these bodies depends.

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THE ENFORCEMENT OF THE MEDICAL LAW.

Now that we have a law regulating the practice of physic, a very natural question arises as to the means at our command for enforcing it. It is hardly to be expected that the individual practitioner will undertake to be the prosecuting party unless, perhaps, in isolated cases, and under peculiarly aggravating circumstances. At best such cases will be few compared with the aggregate number of unqualified practitioners who will need attention. Occasionally some outsider may enter a complaint against an unregistered man merely for the sake of half the penalty which he may receive. But the possibility of such occurrences will be slight, and the results following therefrom will be comparatively insignificant. In this as in all other similar matters in which the true interests of the profession are concerned, the profession must act in a corporate capacity, through one or other of its societies. It requires no second thought to determine the proper organizations. These are the county societies throughout the state. Such organizations are thoroughly representative in character, are, as a rule, composed of all the reputable practitioners of a given district, and are interested in maintaining the rights and privileges of their individual members. The Medical Society of the County of New York has possibly taken the initiative in this matter, at least so far as regards preparing its treasury by extra assessment for increased outlay in prosecuting irregular practitioners.

There is no doubt that this is the best way to solve many of the difficulties which must necessarily attend the practical working of the law. The extra assessment of $2 per member upon the medical society in this county will not be felt, and will no doubt be cheerfully paid. We are not informed of the pecuniary ability of other county societies to meet similar extra expenditures, but if more funds are needed the example of our own society should be followed.

If the medical profession as a body show no interest in seeing the law enforced, it will become a dead letter upon the statute book. Perhaps never before was such a good opportunity offered to pit legitimate medicine against quackery, and create a proper public sympathy for the former. The central idea of the law—that of registration of qualified practitioners—is so simple that the public are already prejudiced in its favor.

The Medical Society of the County of New York is the fitting one to set an example to other similar organizations throughout the state and prove the practicability of the law. If there are weak points in the law they can be tested in no better way than in the courts. When flaws are discovered they can be mended by future legislation. Until it is demonstrated to the contrary by actual tests before the proper tribunals the law must be considered perfect and the county societies through their proper committees should act accordingly. The details of action can be left with the different committees. Perhaps no better general suggestion could be made than that a committee should examine the register at least once every six months, and in their report to the society embody such suggestions and recommendations as may appear necessary to enforce the full letter and spirit of the law. But we presume that the other county societies are quite willing that the New York society shall take the initiative, and are prepared to await developments.

PASTEUR'S DISCOVERY OF THE "VACCINE" OF FOWL-CHOLERA.

M. Pasteur has at last made known the method by which he claims that the virus of fowl-cholera can be modified so as to produce a morbid disease which has the same protective power against the original disease that vaccinia has against small-pox. M. Pasteur's communication on the subject is of extreme interest, on account of the bearing which the alleged discovery has to all infectious diseases. Fowl-cholera itself is not a disease of much consequence; it is not a cholera at all, but is a highly virulent blood infection, characterized chiefly by fever, swelling of the cervical lymphatics, pericarditis, and duodenal congestion or inflammation. Its termination is frequently fatal, but not necessarily so, and the poison seems to differ in the degree of its virulence at different times. The special poison of the disease, according to Toussaint and Pasteur, is an oval-shaped micro-organism about $\frac{1}{40000}$ of an inch in diameter. This organism can be easily cultivated in certain media, such as decoction of muscle; and it was by cultivating it in these media that Pasteur obtained the results he now announces.

In describing his investigations, the facts of the variable intensity in the symptoms and course of the different infectious diseases is referred to. It being admitted that such a variability does exist, the problem proposed by the experimenter was to take the infective organism in cases of virulent fowl-cholera, and try whether by artificial cultivations the intensity of their effect could not be diminished. It was found that if these micro-organisms were subjected to numerous cultivations immediately succeeding each other, the virulence was not at all diminished; but if the intervals between the cultivations were prolonged, a gradual diminution in intensity did take place. Thus, for example, the germs from a very malignant case may be placed in a muscle-decoction, and there allowed to multiply. Multiplication having ceased, the decoction is allowed to stand for two months; some of it is then taken and placed in fresh culture-fluid, where growth and multiplication again occurs. Now while the inoculation of the first decoction will kill ten chickens out of ten, and that in a sudden manner, the virus of the second decoction does not kill all, or at least it will have lost its *foudroyant* character. If the time between the successive cultivations is extended to six, eight, or ten months, the virulence of the poison continues to become weaker, until it finally causes simply a mild disease that does not injure the fowl, but protects it from the effects of any further inoculations even with the freshest and most virulent organisms.

This is M. Pasteur's method of obtaining the protective virus of fowl-cholera.

The next question which he proposes is: What is the agent that causes this progressive diminution in the intensity of the special poison? He found that cultures which were kept preserved from the atmosphere in hermetically closed tubes did not lose their virulence in the least, although preserved for ten months in this manner. Cultures from the same source, that were exposed to the air, gradually lost their strength, as has been described. M. Pasteur finds in this fact a clear demonstration that it is the oxygen of the air which weakens or extinguishes the virulence of the poison; and he believes further that this is not merely an isolated fact, but possibly the grand principle that to this influence is due the modification and limitation of great epidemics.

This, as well as the other of M. Pasteur's communications on the subject of fowl-cholera, read very much like a romance. It must be said, however, that he is not alone in announcing discoveries of the kind just described. M. Toussaint states that he has been able to modify the poison of anthrax, so hat after its inoculation in healthy animals a morbid action is produced which removes the susceptibility to the original poison. Only in M. Toussaint's case the alleged infective germs were removed from heir fluid medium, instead of being cultivated in it. He took the blood of animals affected with anthrax and destroyed the organisms in it by filtration and carbolic acid. He then injected the filtered fluid into healthy animals, and found them protected by it against the anthrax.

Similar experiments with the virus of splenic fever have been made by Dr. Burdon-Sanderson and Dr. Greenfield. The latter showed that if a guinea-pig be inoculated with the blood of a heifer suffering from splenic fever, the former animal takes the disease. Then, if the blood of the guinea-pig be inoculated in a healthy heifer, it will protect that animal against splenic fever. Still other experiments by Buchner and by Koch, showing the apparent possibility of changing by cultivation the supposed specific properties of micro-organisms, have been made.

All these investigations have led their authors to conclusions which, if correct, are of a vast importance to pathology as well as to practical medicine.

While hoping that these experimenters are not deceived, we cannot but remember that the history of specific germs is full of the wrecks of brilliant hypotheses. From Hallia, with his rice-fungus, to Oertel, with the diphtheria spores, the story has been one of laborious experiment, alluring theory, then refutation, and final collapse. There is a remarkable medico-geographical fact also in this connection. It is that all the specific micro-organisms, except a few in Ohio, live on the other side of the Atlantic and cluster around the laboratories of a few pathologists. Therefore it is not surprising that some incredulity be shown toward specific germs, in whose geographical distribution there is shown such a conspicuous bias.

THE BENIGNITY OF SYPHILIS.

It is seldom that a committee on prize essays gives such good reasons for its action as did such a committee of the County Society of New York, in awarding its annual prize to Dr. Chas. L. Dana; and it is also rarely the case that the prize essay is upon such an interesting and novel topic. We are so much accustomed to associate syphilis with everything that is bad, that any claim for its benignity is somewhat startling. Still Dr. Dana attempts to prove this by a "conscientious and laborious study" of three hundred and seventy-eight cases occurring in seamen. Whether syphilis behaves differently with seamen than others, and whether their hygienic surroundings are capable of modifying the usual manifestations of the disease are questions of more than ordinary importance, especially in connection with several points brought out in the essay. At a future time we shall publish the essay in full.

THE FILTHY STREETS AND DISEASE.

The new Committee on Hygiene of the Medical Society of the County of New York consists of Drs. Janeway, Roosa, Billington, A. B. Judson, secretary, and John C. Peters, chairman. The subject which will principally be investigated by the committee is the condition of the streets and gutters of the city and the diseases arising therefrom.

It is claimed by some of the committee that a great deal of sickness and some deaths occur from the filthy condition of the streets and gutters alone, and many diarrhœal diseases, notably, cholera infantum in the summer, and diphtheria in the cooler months. An ordinary sore throat caused by taking cold in pure cold air will generally be simple catarrhal or inflammatory in its nature; but a sore throat contracted in impure air will probably be septic, malignant, or diphtheritic in character; and this foul air may be supplied by dirty streets and gutters alone. A great deal of street and gutter dirt is washed down into the receiving-basins and sewers by every rain-storm, and adds to the foul contents of the sewers, and increases the quantity and malignancy of sewer-gas. Much diphtheria is caused by sewer-gas, and a great deal of it is owing to the neglect of the street-cleaning department. We would suggest that every physician aid the Committee on Hygiene, by noting nuisances in his own neighborhood which injure his property and the health of his family, and report to the committee. Common humanity also requires that physicians should do this for their patients.

Reviews and Notices of Books.

Die Pneumatische Behandlung der Respirations- und Circulations-Krankheiten im Anschluss an die Pneumatometrie und Spirometrie. Von Dr. L. Waldenburg, Professor an der Universität Berlin, etc. Zweite vermehrte Auflage, erweitert um einen Beitrag über das Höhenklima. Mit Holzschnitten. Berlin, 1880: Aug. Hirschwald. 8vo, pp. 618.

The Pneumatic Treatment of Diseases of Respiration and Circulation, based on Pneumatometry and Spirometry. By Dr. L. Waldenburg. Second edition, containing an appendix on the climatology of high altitudes. Berlin, 1880.

Prof. Waldenburg is well known as the able editor of the *Berliner klinische Wochenschrift*, and his contributions to medical literature are appreciated both here and abroad. The present large volume deals with a highly important class of internal diseases, diseases which include the most largely fatal of maladies. Any new light, therefore, which is shed on this part of the medical domain must needs be welcome to the profession. And this even if, as in the present instance, the direct practical benefits to be derived from such a source are quite incommensurate with the addition to our theoretical knowledge. Not that we are inclined to undervalue the therapeutical successes obtained by the author, and perhaps equally attainable by others, but we doubt whether the general practitioner will ever provide himself with the large and costly apparatus necessary for pneumatic treatment by Waldenburg's method. Still, in the hands of specialists, the "portable Waldenburg," as we would like to call it for short, will doubtless prove an instrument of rational therapeutic efficiency and great practical utility. We have seen his latest improved apparatus in use, and have also ourselves tried it with gratifying results. But we still believe that the profession at large will not employ it. It is impossible here to do full justice to the elaborate deductions of the painstaking author. He has, we believe, fairly succeeded in his attempt to supply us with an accurate foundation to a mechanical therapy of diseases of respiration and circulation. His apparatus is so constructed that patients can inhale or exhale into a reservoir containing air which has been rarefied or compressed to any desired degree. During the process of breathing the degree of compression or rarefaction remains the same. There is also a convenient appliance for medicating the air before it is breathed by the patient. For all the minute details and necessary precautions the reader is referred to the author's 618 pages.

School and Industrial Hygiene. By D. F. Lincoln, M.D , Chairman Department of Health, Social Science Association. Philadelphia: Presley Blakiston. 1880.

This is the twelfth little volume in the series of American Health Primers, and like its predecessors it contains many practical hints and valuable suggestions, addressed to an intelligent laity. Perhaps no one subject pertaining to our general health will more amply reward the time and attention bestowed upon it, than that of school hygiene. The general principles which underly a rational management of our youth during their years of school-life are everywhere clearly stated by the author. Parents, guardians, school-teachers, and all who are interested in educational matters, will find food for thought in the pages of Dr. Lincoln's little book. Chapter VII. might, perhaps, have been omitted altogether, since the subject of the care of the eyes has been treated with the fulness it deserves by Dr. Harlan, in volume IV. of the same series of health primers.

The Nature and Treatment of Syphilis and the other so-called "Contagious Diseases." By Charles Robert Drysdale, M.D., M.R.C.P., etc. Fourth Edition. London: Baillière, Tindall & Cox. 1880.

Dr. Drysdale, without a word of explanation, substitutes the term "contagious diseases" for what we are in the habit of calling venereal diseases. In this country, at least, the profession does not limit the meaning of contagious diseases to gonorrhœa, chancroid, and syphilis. If this misnomer were the only fault to be found with Dr. Drysdale's little book of 172 pages, we would feel inclined to spend more time in the discovery of its merits. But the truth is that, after all the weeds have been eliminated, there is not much flower-garden left. We are not inclined to attempt any such undertaking, for it would prove a thankless task. His preface the author concludes as follows: "My hope is that any earnest student who does me the honor to read this little treatise will be able to *make up his mind* (italics ours) from the evidence before him, without any need of dogmatic assertions on my part." Exactly what is to become of "any earnest student" with his mind thus "made up," it is somewhat difficult to realize, unless it be that he will succumb to the contagion, and likewise try to compile a book from scattered sources without the connecting cement of personal ideas on the subject treated of.

On page 6 we learn that "in the affection called *chordee* the urethra runs along the under surface of the penis." In what affections it runs along the upper surface or elsewhere, is not mentioned. Our knowledge of pathology is enriched by the astonishing information that "the *cause* of gonorrhœa is the urethral mucous membrane being red and injected." Gonorrhœa is also a *special* inflammation, whereas we always regarded it as a specific one. At any rate, it is consoling to know that "some patients get well *in time*, who are refractory to all other influences." We believe the reader can judge from these few specimens, culled from a few pages of Chapter I., how the book is written, and what profit can be derived from its perusal.

Treatise on Therapeutics. Translated by D. F. Lincoln, M.D., from the French of A. Trousseau and H. Pidoux. Ninth Edition, Revised and Enlarged, with the Assistance of Constantine Paul. Vols. II. and III. New York: 1880. Wood's Library of Standard Medical Authors.

A large part of the second volume of this work is taken up with a discussion of the antiphlogistic treatment. The chapters display the masterly manner in which Trousseau discussed therapeutical and pathological questions. And although, as is remarked by the translator, the points involved are now somewhat obsolete, yet the pages will fully repay perusal. The remainder of the volume is devoted to the evacuants, excito-motors, and narcotics. The mode of action, and, especially, the uses of these classes of medicines, are presented in a clear and practical manner.

The third and last volume is devoted to anæsthetics, antispasmodics, neurosthenic tonics, excitants, sedatives, and anthelmintics. There is, under each head, a discussion of the general principles upon which the particular class of remedies acts. These general discussions, however, do not take up so much space as they do in the other volumes, and we find here a great deal more that is specific and practical.

The work before us gives, on the whole, a very fair presentation of the therapeutics of the present day. The physician who is looking for remedies and methods that will help him in his everyday work, can learn here the conclusions which the long experience and acute observation of Trousseau and his pupils furnished regarding the treatment of disease, and he will find these conclusions, and all that accompanies them, presented in the brilliant style of which Trousseau was so great a master. The first edition of this work was published over forty years ago, but, with the later additions, it still continues an invaluable contribution to therapeutics; and its translation into English is equally a matter of justice to its author and of practical value to the medical profession.

If we were to criticise it from a purely practical standpoint, we might object to the length of some of the discussions of general principles. The book could be used to better advantage if these were left out or condensed.

The translation seems to have been very carefully done. The index is not as complete as it might be, or as a work of such character ought to have.

* * *

Cancer in the Lower Animals.—In the *Archives of Comparative Medicine* for October is the report, by Dr. W. H. Porter, of a necropsy made upon an Oclos-Feli-Paradalis, an animal that died at the Central Park Menagerie. For some weeks it had shown signs of pain and exhaustion. On examining the abdominal cavity a cancerous growth was found involving the pancreas and omentum.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 4th, 1880.

Fordyce Barker, M.D., LL.D., President, in the Chair.

Dr. Tyron, of the U. S. Navy, and Dr. Ferguson, of Troy, N. Y., were introduced to the Academy and invited to seats on the platform.

The Report of the Librarian showed that 81 bound and 16 unbound volumes, 520 medical journals, and 336 pamphlets had been donated to the library since the last stated meeting.

Dr. Paul F. Mundé then read a paper entitled

DIAGNOSIS AND TREATMENT OF OBSCURE PELVIC ABSCESS, WITH REMARKS ON THE DIFFERENTIAL DIAGNOSIS BETWEEN PELVIC PERITONITIS AND PELVIC CELLULITIS,

in which he gave a review of the differential points, anatomically and clinically, between inflammation involving only the pelvic peritoneum and inflammation confined to the pelvic cellular tissue. He was induced to bring up this much discussed question by a recent revival of the controversy as to which of these two affections was the more frequent, and the denial by Guérin, a prominent French gynecologist, that such a thing as cellulitis of the broad ligaments existed. The presence of cellular tissue between the layers of peritoneum forming the broad ligaments had recently been denied by Guérin, who asserted that he was unable to find it, and therefore corroborated the old statement of Bernutz that the evidences of inflammation and plastic exudation found in those localities were due to pelvic *peritonitis*, and not pelvic cellulitis; that the serous membrane was inflamed, not the cellular or connective tissue underneath it. Bernutz, indeed, claimed that pelvic cellulitis was a rare affection, but pelvic peritonitis a very common one.

Dr. Mundé then referred to the investigations of König and Schlesinger, Byrne of Brooklyn, Spiegelberg, and others, which proved conclusively that pelvic cellular tissue existed in abundance.

The place of election for inflammation of the pelvic connective tissue was between the layers of the broad ligaments.

With reference to differentiation between a pelvic cellulitis, an inflammation and exudation into the cellular tissue of one broad ligament and one-half of the pelvic cavity, and a pelvic peritonitis, an inflammation of the peritoneal envelope more or less covering that same pelvic cellular tissue, which also showed itself by effusion and localized swelling, he believed that the two affections were so often associated that it was impossible to differentiate between them; with an exudation into the supravaginal connective tissue there always was a plastic effusion on the surface of the contiguous peritoneum or into the adjacent serous pouch.

That was the opinion expressed by Emmet in his recent book, where he confessed his inability *ever* to distinguish between perimetritis and parametritis at the bedside, and pronounced the distinction to be merely a theoretical one.

He thought, however, that Dr. Emmet went too far upon that point, because he believed that typical cases in which the two affections could be separated existed. The etiology of the affection might, to a certain extent, aid in making a diagnosis.

The physical shock was a better criterion, for that of a large intraperitoneal effusion was vastly more severe than from an exudation into the connective tissue, which latter was often scarcely attended with fever or pain.

The physical sign, as elicited by the touch, gave the best diagnostic evidence.

As a rule, it might be held that in *pelvic peritonitis* the only distinct tumor formed was behind the uterus in Douglas' pouch; that that tumor pushed the uterus forward if sufficiently large; that it did not reach down to a level with the external os, and that in pelvic peritonitis the vaginal roof was but rarely depressed by an intraperitoneal effusion. If a lateral tumor was felt, it was only when the effusion has become so large as to exceed the capacity of the median pouch, and that lateral tumor was then always posterior to the uterus. The tumor could be felt by abnormal palpation only when very large.

In *pelvic cellulitis* the tumor was usually felt at the side of the uterus, might reach behind and below the cervix if the exudation was large enough, but then was usually as low as the external os; laterally it bulged out the anterior vaginal wall, and might also fill the whole posterior segment of the pelvic cavity; it was felt at once as soon as the inflammatory symptoms appeared, and the exudation, being confined by its surroundings, must always form a tumor. It always pushed the uterus to the opposite side, and not forward, and could usually be felt without difficulty by bimanual palpation.

In both affections the rigid exudation rendered the uterus immovable.

The practical importance of the distinction between pelvic peritonitis and pelvic cellulitis, with reference to prognosis, was very much greater than with reference to treatment. An intraperitoneal effusion was always a more serious matter, and was more liable to leave traces behind it in the shape of adhesions and obscure abscesses than a cellulitis. The prognosis, therefore, should be more guarded in peritonitis, although the majority of cases recovered. With regard to treatment, both affections were amenable to the same measures, and would show equal tardiness in recovering.

With regard to the relative frequency of the intraperitoneal and cellular effusions, he found that in over 2,000 gynecological cases of which he had accurate and full notes, there were 108 cases of distinct well-marked pelvic effusions; of those, 73 were noted as suffering from pelvic cellulitis, the precise seat and extent of the exudation being given in all, and 26 were pronounced to be pelvic peritonitis, on what appeared to be good and sufficient evidence. Of the cellulitis cases, 33 were noted as being chiefly on the left side, 21 on the right, 9 in both broad ligaments, and 10 behind and surrounding the uterus.

PELVIC ABSCESS—ASPIRATION.

Dr. Mundé then spoke of the diagnosis and treatment of a peculiar variety of pelvic abscess which he had met with several times during the past two years. By pelvic abscess he meant an abscess formed as the result of, and in an exudation of, plastic lymph in the cellular tissue of the pelvis, and in this paper he wished to refer solely to abscess of the broad ligament, in which locality all the deposits there referred to were situated. This exudation into the broad ligament (generally the left one) was bounded behind, above, and before, by the peritoneum, laterally by the uterus and pelvic wall, and below by the vaginal roof. Between the exudation and the finger was, therefore, only the wall of the vagina.

An exudation of that kind was ordinarily soft, doughy during the first few days; but it soon hardened and lost the tenderness which it at first had to a high degree. In seven of his cases the disease took a different course from the usual, and another method of treatment was finally employed. In all those seven patients all the ordinary remedies failed to dissipate the exudation, although faithfully and persistently employed for months. The patients all came under his care after they had been under other medical treatment. In all the cases there was a large solid tumor at the side of the uterus, filling up one-half of the pelvic cavity and reaching deep down to the pelvic floor, and distinctly palpable by bimanual examination. The histories of the seven cases were then read. The special method of treatment mentioned was aspiration for deep-seated pus.

The special points which he emphasized in his paper were: (1) the anatomical and clinical difference between pelvic peritonitis and pelvic cellulitis, and the very frequent impossibility of distinguishing between the two affections, for the very simple reason that they were often combined; (2) the possibility of suspecting the existence of serum or pus in an intrapelvic exudation, by reason of the long unchanged continuance of that exudation, its rounded outline, uniformly boggy feel, or the presence of occasional softer indentable spots; further, by the constitutional symptoms, such as anæmia, cachexia, perhaps rigors; (3) the safety with which such chronic lymph-exudations could be punctured and aspirated; and (4) the rapidity and certainty with which the removal of even *very small* quantities of clear serum or pus from such exudations, by means of the aspirator, was followed by complete absorption of the mass, and a return of the patient to health and strength.

He stated most emphatically that he meant only the old, chronic, stationary deposits (the very chronicity of which called for interference) which he would aspirate and expect to benefit thereby. The puncture of a fresh exudation and the removal of a greater or lesser amount of clear serum, as recommended by Brickell, of New Orleans, he considered a decidedly risky proceeding, and one that he would almost invariably expect to see followed by a fresh exudation.

He could scarcely be impelled to use the aspirator (special indications of early suppuration excepted) under two months after the beginning of the attack, since he had seen so many of these large deposits, which seemed destined to suppuration, melt away, or shrink and contract under steady, hot applications and tonics, after two or three months. Hard, contracted, fibroid lymph-deposits were therefore not fit subjects for aspiration.

The dangers of this aspiration he believed to be very slight. Indeed, he had, in several cases in the dispensary, plunged his small hypodermic needle into a pelvic exudation where he suspected pus, and found himself mistaken, without the slightest reaction. A proper amount of caution and rest afterward, should, however, always be enjoined.

In choosing the spot through which to aspirate, the most dependent, most boggy part should be selected, where the finger could indent the tissue, and the needle should be thrust in at least an inch, until either a cavity has been reached, or there was danger of piercing the whole mass. To simplify the operation, also, and chiefly because he feared that thick pus would not escape through the ordinary fine hypodermic needle, and thus the diagnosis fail, he had a slender needle, 10 centimetres (4 inches) long, made, which had about double the calibre of the ordinary hypodermic needle. In that respect the needle was like any aspirator needle of corresponding size, but he had the attachment made to fit both a hypodermic syringe and a larger glass syringe holding 20 grammes (4 oz.). He was thus enabled, first, to aspirate the mass with the long needle and small hypodermic syringe, and fluid having been found, remove the hypodermic, attach the large syringe, and withdraw the fluid. If its quantity exceeded the capacity of the syringe, he had merely to close the stopcock attached to the removable nozzle, detach the syringe, empty it, push forward the piston and reattach it, open the stopcock, and withdraw the rest of the fluid. Air was thus effectually prevented from entering.

In his treatment of aspiration of obscure pelvic abscesses and indolent exudations, he was pleased to be supported by the testimony of two such competent gynecologists as Drs. Richard B. Maury,* of Memphis, Tenn., and Angus Macdonald,† of Edinburgh.

No doubt the permanent opening of such abscesses was the proper treatment if they persisted in refilling after repeated aspiration. But he should prefer the perfectly safe puncture with the Paquelin needle to the always rather hazardous free incision which might unexpectedly strike an artery, large branches of the circular being easily felt pulsating in the roof of the vagina.

Dr. Mundé then spoke of Dr. Lawson Tait's treatment of pelvic abscesses by making an incision through the abdominal wall, and remarked that that method should be resorted to only when the vaginal method failed.

The paper being before the Academy for discussion, Dr. W. M. Chamberlain directed attention to one diagnostic point between pelvic peritonitis and pelvic cellulitis that had not been mentioned by the author of the paper, and that was the location of the exudation in the cavity of the pelvis, below the level of the peritoneal plane, in cases of pelvic cellulitis. He had often recognized the extreme upward limit of the infiltration in regions clearly extra-peritoneal, and he had seen small pockets of pus in the cellular tissue in the recto-vaginal septum which had opened spontaneously or had been opened with the point of a small bistoury. The issue of some cases of pelvic cellulitis, he thought, was conclusive evidence that the disease was in the cellular tissue, and not intraperitoneal—namely, those in which an external opening occurred. (These openings occurred or were made in the line of Poupart's ligament or close to the iliac fossa, or by the side of the anus.) In all these cases the pus escaped from a cavity that was subperitoneal. He had had no experience with the method of treatment brought forward by Dr. Mundé, but did not suppose that it was mentioned because it was a new procedure; for it had been extensively discussed nearly twenty years since by Prof. Simpson in his Lectures on Gynecology, and many cases adduced, among which was that of a London surgeon, who, having made one or more such operations about 1850, had found them to be the entering wedge of a large gynecological practice.

Dr. Wm. T. Lusk expressed his appreciation of the value of the paper, and referred to the frequency with which pelvic inflammations were overlooked in general practice, because of the multitude of symptoms to which they might give rise, many of them simulating closely the symptoms belonging to diseases of various organs. For some time he had been in the habit of aspirating these tumors and, if pus was found, to enlarge the opening at once, put in a drainage-tube, and keep the cavity clean until the healing process was complete. Dr. Lusk related the history of several cases. He further remarked that he had tried simple aspiration on rather a large scale in hospital practice, and he had not been well pleased with the results. Those results, however, did not invalidate Dr. Mundé's views at all, because the results obtained in hospital could not be applied to private practice.

He regarded the fact that the abscesses in Dr. Mundé's cases were not refilled after being emptied once as the most interesting point in the paper; for, as a rule, a large abscess refills after it has been evacuated. He regarded that point as a valuable addition to our knowledge. He had heretofore supposed that, unless an abscess was opened freely, and kept clean, the healing process would not take place. It had been his practice to treat abscesses that reached above the pelvic wall by making a free incision, four or five inches in length, and had obtained satisfactory results. By simply emptying the abscess, he had seen only temporary relief afforded, but by making a free incision, and then filling the cavity with oakum, it had been rapidly closed by the process of granulation.

Dr. T. Gaillard Thomas was happy to avail himself of the opportunity to speak upon the subject, not only because of its importance, and on account of the special interest in it, but for the reason that he had been one of the earliest and most persistent workers in connection with it. He had listened with pleasure to the paper, regarded it as a good *résumé* of the subject, but certainly it contained nothing new. During the last ten years he had persistently striven, as was well known to the President, both in his writings and teachings, for the establishment of the views maintained by the author of the paper. That which had brought the question to the surface again were the views of Guérin, and those expressed by Dr. Emmet, with regard to the impossibility of making a distinct diagnosis of each of these two affections—pelvic peritonitis and pelvic cellulitis. With regard to the presence of cellular tissue in the pelvic cavity, he believed that all were unprepared to accept the claim that there was none in that part of the body.

With regard to the aspirator, it had been commonly used both as a means of diagnosis and treatment of these pelvic tumors, but that fact made the subject none the less important, nor the paper any the less valuable. He believed it to be as easy to accept the statement that there was cellular tissue in the pelvis, and also disease of that tissue, as well as the tissue which was just above it, as it was to accept the statement that there were two tissues in the lung, the one belonging to the lung proper and the other consisting of its serous covering the pleura; that each could be diseased and that a differential diagnosis could be made between pleurisy and pneumonia. Not that one disease, in most cases, existed without the other entirely, but pursued their course as did pericarditis, which rarely terminated without affecting the cardiac muscle and developing myocarditis. He maintained that there was no reason for confounding the two affections, because pleurisy and pneumonia commonly existed together. In many cases it was exceedingly difficult, if not impossible, to separate them positively by either physical examination or clinical history, or both combined; but that was no reason for not separating them and studying them as two diseases.

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* The St. Louis Courier of Medicine, January, 1880.

† The Edinburgh Medical Journal, June, 1880.

The same was true of pelvic peritonitis and pelvic cellulitis, and there was a large number of typical cases in which the merest tyro could distinguish between them. He thought that we were taking a step *backward* if we confounded these two diseases one with the other. On the other hand, he believed that we were going a little too far in diagnosis when we found so many cases of pelvic cellulitis.

Since the appearance of Dr. Emmet's opinion upon cellulitis, it had become very customary for diagnosticians to declare, in cases where pelvic pain existed without apparent, or rather discoverable cause, that this disease existed. Dr. Emmet's views had been misconceived, and we were, he thought, drifting into mysticism in diagnosis in reference to an important affection, the physical signs of which were very plain.

Again, while he believed that there was a pelvic disease to which the name of pelvic cellulitis had been given, he doubted whether it could be called an advance to classify under that head those cases in which there existed neither the rational symptoms nor the physical signs of the affection.

With regard to treatment, he would make the rule, "*Let pelvic effusions alone whenever and wherever you can.*" Do not use the aspirator. Do not evacuate the accumulation. It was a well-known fact that every now and then a different plan had been brought forward for the management of nearly all diseases. Only a few years ago it was suggested and carried into effect, that the proper method of managing pelvic hematocele was to open the tumor; but he presumed if there was any point fixed, at the present time, with regard to the treatment of pelvic and uterine diseases, it was that pelvic hematocele should be let alone just as long as possible. But when symptoms were developed which made it evident that the patient would die if left alone, then act promptly and at once. So he would say, with regard to pelvic effusions, he had opened many of them, and aspirated many of them, and had regretted so doing in many cases. So much in a general way upon the subject. To come to the paper more closely, he believed that Dr. Brickell's rule, spoken unfavorably of by Dr. Mundé, was a bad one. It was in violation of the rule which he had just given, namely, let pelvic effusions alone whenever and wherever you can. He also believed that if two or three months had passed and the patient showed symptoms of septic absorption, and those symptoms did not disappear promptly, the accumulation should be treated as we were occasionally obliged to treat abscesses in other parts of the body, especially in the pleural cavity. He who would draw off a pleuritic effusion within three weeks was a dangerous man; and he who would leave it for three months was also a dangerous man. After a certain length of time has elapsed, and the patient did not get well, do with it as should be done with an accumulation of fluid in the pleural cavity.

As to the method of removing the fluid he looked upon the use of the aspirator in the treatment of purulent pelvic effusions as an unsurgical procedure. It was an excellent means where a first-class surgical procedure could not be adopted. Under such circumstances he used the aspirator. While in the evacuation of fluid accumulations in other parts of the body he regarded the aspirator as an invaluable resource, he looked upon it as often an unsurgical and hazardous one when used for purulent accumulations in the pelvis when their location, and even their very existence, was a matter of doubt. He used it as a means of diagnosis, and in tentative treatment, when he did not dare to resort to better surgery. But when the tumor was within reach, and he felt that it was safe to evacuate its contents, he then resorted to the following method: Place the patient upon her side, introduce a Sims' speculum, carry in an exploring needle and move it about until pus is seen flowing through its gutter, and then, with a small pointed bistoury in the gutter of the needle, enlarge the opening, evacuate the pus thoroughly, keep the opening free by means of drainage-tubes, and cleanse the cavity regularly with a solution of carbolic acid. Such a procedure he had found more satisfactory and less dangerous than the use of the aspirator. The aspirator had been used frequently through the abdominal walls, and with disastrous results, as was well known; for the fatal cases were abundant, thus showing that it is not so safe an instrument as it appears to be. Dr. Thomas then referred to a fatal case recently reported in the Boston *Medical and Surgical Journal.*

Dr. W. Gill. Wylie had had several of these cases under his care within the last six or eight months. The first was one in which the abscess was between the uterus and the rectum. He aspirated it, the abscess refilled, an opening was then made with a knife, but the patient died.

In the *second* case he aspirated the abscess twice, and the patient recovered. Aspiration, however, was followed by a curious accident, namely, labor-pains, which caused spontaneous expulsion of a fibroid, together with a large quantity of pus.

In the *third* case he attempted to wash out the uterus, but the water did not return. It was evident that severe inflammation existed somewhere, but no evidence of pus could be obtained by physical exploration, although the constitutional disturbance indicated its presence. It was thought that signs of pus in one or two indurated masses were obtained and an aspirator needle was introduced, but no pus was withdrawn. An abscess finally opened into th bladder, and daily pus was discharged from that organ. He had seen aspiration done several year ago, and he had also resorted to it several times In one or two cases he had tried to use the needl attached to a syringe, but found difficulty in managing the needle and using the syringe at the sam time, and since then had used a short needle with supple tube. He believed that there were two diseases, pelvic peritonitis and pelvic cellulitis, although there were many cases in which a differential diagnosis could not be made either by physica signs or the history of the case. He also referred t pressure as a means for reducing indurations in th pelvis which were not sensitive, and thought it coul reach some cases which could not be cured by blistering and the use of hot water.

Dr. Frank H. Hamilton was surprised that th existence of subperitoneal areolar tissue in the pelv should be denied. He had had to deal with a fa share of pelvic abscesses, and he believed he would sustained by all general surgeons in the statemen that the vast majority of these cases came to a su cessful termination without surgical interferenc Not that interference might not be desirable, but th they took care of themselves before fluctuation w detected, and discharged either into the vagina or t ectum, or the bladder, or in other directions. He was very sure that the surgeon who searched for unknown pus in the pelvic cavity would often do more harm than good.

Dr. A. C. Post referred to a case which illustrated the fact that sometimes unpleasant consequences followed aspiration through the abdominal walls. The result was the formation of a fecal fistula.

Dr. R. Tauszky spoke of the anatomical relations, and the difference between the peritoneum and the cellular tissue of the pelvis. He had used the aspirator in four cases, besides the one mentioned by Dr. Mundé, and with good results.

Dr. Mundé remarked that he knew very well that his paper did not contain anything new, and that he stated distinctly that it was brought out entirely by the supposed new discoveries of Guérin and the statements of Dr. Emmet.

He wished simply to revive the subject before a non-gynecological audience. He agreed with Dr. Thomas with regard to letting pelvic cellulitis alone, but did not see why it was wrong when pus was found to let it out. Judging from the results obtained in the cases in which he had aspirated he believed that he did right in evacuating the pus, and the patients recovered without the slightest unfavorable symptom. It was in the cases of pelvic cellulitis, in which there was a large exudation that remained unchanged for months despite all treatment, and the patient was in a cachectic condition, that seemed to depend upon the pelvic exudation, that he recommended the plan of treatment described. Was it not proper in such cases to introduce an aspirator-needle to see if pus existed, and if it was found, was it not proper to evacuate it? To aspirate an intra-peritoneal tumor he regarded as a dangerous procedure. He was equally surprised with Dr. Lusk that the abscesses did not refill, but still the fact remained that there was no reaccumulation of pus. Of course, if the abscess refilled, and he knew that pus was present, he would not again aspirate.

For himself, he had always hesitated with reference to using a knife in the pelvic cavity. The objection which Dr. Wylie had offered to the syringe Dr. Mundé accepted as a good one. But his suggestion with reference to treatment by pressure was not new, and had been long practised by Dr. Bozeman and others.

Dr. Hamilton said that he did not say he would not open the cavity if he discovered the existence of pus.

Dr. Thomas remarked that his rule was simply to leave the abscess as long as possible; but when the time came that the surgeon could be certain that pus existed, the abscess should be evacuated, but not by means of the aspirator.

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Scarlatina from American Hams.—American hams are having a hard time of it. They have already been credited with causing trichinosis, anchylostosis, and hydatids. Now it is asserted that they may convey scarlet fever. A family near Chester, England, consisting of father, mother, and six children, ate American ham one day, and within forty-eight hours were all down with the scarlet fever. The fever was preceded with vomiting and purging. An infant which took no ham was the only person in the house that did not get the fever. All the patients recovered. The inferences drawn from the case are not to be accepted without a good deal more investigation.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 11, 1880.

Dr. T. E. Satterthwaite, President, in the Chair.

FUNGI IN SYPHILIS.

Dr. Berman, of Baltimore, by invitation exhibited under the microscope a fungus net-work in the lymphatics and blood-vessels of the neighboring tissue of a preputial chancre, and which he believed to be peculiar to syphilis. Associated with the condition he claimed that there was an infiltration of small cells, together with the bacteria described by Klebs.

Dr. Keyes did not think that the subject would be ready for discussion until additional evidence had been given by Dr. Berman regarding the claim that the fungus was peculiar to syphilis. For instance, it would be necessary to prove that the fungus existed in all the secondary lesions known to be contagious, that they were never absent in such lesions, nor in the chancre itself; that they never occurred in any ordinary ulcerations; and finally, that they were the elements of contagion. There was no doubt that the contagion of syphilis was due to a virus, but whether chemical or organized had not yet been demonstrated even by Klebs.

Dr. Otis agreed with Dr. Keyes in regard to the inadvisability of discussing the subject before additional investigations had been made. He did not think that anything had been shown by the gentleman presenting the specimens to prove that the fungus was dependent upon the syphilitic poison.

Dr. Briddon asked if any investigations had been made by Dr. Berman tending to fix the limit of time during which the fungi were confined to the initial lesion.

Dr. Berman had not yet had the opportunities for making such observations.

Dr. Tauszky referred to the investigations of Lostofer in regard to the supposed syphilitic corpuscle, and how, finally, the same appearances, supposed to be characteristic of syphilis, were found in the blood of persons suffering from scrofulous and tuberculous diseases.

Dr. Satterthwaite remarked that it was very easy to criticise such work. He did not suppose any one knew how difficult it was to investigate the question of vegetable germs unless they had tried to do so. Every step was attended with danger. For instance, the first difficulty with which to contend was the fact that almost all the specimens we were called upon to examine were filled with different varieties of germs. It was true that Dr. Berman had shown some rod-like bodies that were yoked together in a peculiar if not unique manner, but their general character could be studied only on a large scale and under different conditions of preparation. Thus, a great deal depended upon the character of the staining used, it being well known that nitrate of silver, for instance, would, of itself, produce some remarkable microscopical appearances. Again, the rod-form of fungus was particularly common, and presented many varieties.

On motion of Dr. Keyes, a vote of thanks was tendered to Dr. Berman for his presentation.

CONGENITAL DISLOCATION OF THE HIP—CLEFT PALATE.

Dr. Gibney presented two living specimens, a mother and child, the former showing unilateral congenital dislocation of the hip caused by the arrest of development of the upper rim of the acetabulum, and the latter illustrating cleft palate. The interest in the cases seemed to centre in the fact that the mother, although herself subject to arrest of development, had ten children born previously without any deformity.

FOREIGN BODIES IN THE ŒSOPHAGUS.

Dr. F. V. White presented a small, irregularly shaped sharp-pointed bone, which had been dislodged from the œsophagus of a male adult by means of the parachute bristle probang. In that connection he referred to a case in which a chicken-bone was supposed to have been swallowed, and in which an œsophageal bristle probang having been introduced no bone was found, but a small portion of the mucous membrane of the œsophagus was brought away. No bad effects followed. At the conclusion of his remarks he took occasion to exhibit different patterns of œsophageal instruments from Tiemann & Co.

Dr. Briddon remarked that it was oftentimes more difficult to extract small substances from the œsophagus than larger ones, and referred in that connection to his case of swallowed shawl-pin in which the extraction of the head of the pin, which was a miniature velocipede, was attended with considerable difficulty.

Dr. Ripley did not think that the extraction of portions of the mucous membrane of either the œsophagus, urethra, or rectum was attended with any bad results. In connection with foreign bodies in the œsophagus, he took occasion to refer to a case in which a cast-iron jack-stone had been lodged in the throat of a child for two weeks. When the patient was brought to him at the end of that time it appeared to be suffering from croup. Chloroform was administered and a polypus forceps introduced, and the foreign body was seized by one of two prongs that overlaid the larynx. But the forceps slipped and the foreign body passed farther down the throat. The finger was then thrust far back into the pharynx and fortunately got behind and below the jack-stone and extracted it accordingly. He believed that chloroform was an almost indispensable adjuvant in these cases.

Dr. Satterthwaite said that not infrequently long after the foreign body had been extracted, a sensation of its presence was left.

Dr. White, by way of illustrating the point, related the case of a gentleman who had accidentally swallowed a pivot tooth, and who imagined he felt the foreign body in the œsophagus, until, after a diligent search, it appeared in the fæces.

Dr. Ridlon presented a small brass shoe-eyelet which had been imbedded for four months in the mucous membrane of the lower lid of a child four years old. Fortunately the eyelet was an old one, and its smooth side was against the ocular conjunctiva, producing little if any irritation.

TAPE-WORM AND EXTRACT OF MALE FERN.

Dr. Van Giesen exhibited a tape-worm which had been discharged from a child, twenty-one months after taking in divided doses two drachms of the extract of male fern. The interest in the case was in connection with the discussion at the previous meeting, showing how large a dose of the vermicide could be given to a child of that age with evil effect to the worm only. He also took occasion to exhibit a specimen of the fluid extract of aspidium marginale made by himself, and to compare it with that manufactured by Merck.

CONTRACTING KIDNEY AND ITS SYMPTOMS.

He also exhibited the heart, portion of the live and two kidneys, taken from a gentleman aged fort nine years, an engineer by occupation, and of ma nificent physique. The patient had enjoyed goo health until last April, when he began to suffer fro cramps in the legs. In the beginning of May he w seized with a very severe occipital headache, attende with slight nausea and some dimness of vision. compound jalap-powder was administered with considerable relief to the symptoms. His uri showed a specific gravity of 1010, and was faintl albuminous. Not enough of sediment could be o tained for microscopical examination. The patie was seen again on the 16th of May, when his rig arm and right leg were found to be numb, with lo of power in each, as noticed in a noticeably weak grasp of the right hand and a dragging of the rig foot. Another examination of the urine on the 18 showed no renal elements. On the 20th the sed ment was obtained from a comparatively large qua tity of urine, and a small amount of albumen and few hyaline and finely granular casts were discovere The specific gravity was still low and quantity urine increased, which led to the diagnosis of co tracted kidney. By the 24th of May the patie seemed to gain more control over his legs, and h headache disappeared from that time until June 3 He then went to Boston to take electrical baths, an remained there until June 24th, when he returned t his work. At this time his appetite was inclined t be ravenous. During September the urine was e amined several times, showing the same pathologic conditions already mentioned.

October 23d, for the first time, he was attacke with dyspnœa, not that usually seen in Bright's di ease but more of an asthmatic character. There wer no symptoms of heart trouble. He recovered quic ly from the attack, and had another on the 29th an 31st. After he recovered from the last attack h became unusually jolly and talkative, and an u favorable prognosis was given accordingly.

November 1st he came home at 1 P. M. and pa took of a hearty dinner. He still complained of a aching pain in the arms and legs and dimness of v sion. After his dinner he was taken with another a tack of dyspnœa, staggered across the room, fell upo the floor, and expired. At the autopsy the cadaveri rigidity was well marked. Intestines were distende with gas. The kidneys were very little larger tha the normal size. The cortical portion was markedl diminished, and presented the microscopical appea ances of chronic diffuse nephritis. The capsules wer adherent, and the organs appeared to have been muc larger and to have undergone contraction. Nume ous small cysts were scattered throughout their su stance. The liver presented the appearances c chronic hyperæmia, associated with the nutmeg co dition. In estimating the cause of the phenomen which gave rise to the paralysis he had hoped to fin some solution in the condition of the valves of th heart, but they appeared to be healthy. Thes valves responded perfectly to the hydrostatic tes The heart itself was slightly hypertrophied, and i removing it from the cadaver a rent occurred in th muscular tissue just below the insertion of the pu monary valves. The muscular tissue in the vicini was the seat of true fatty degeneration. The lung were normal, and the pericardium contained very li tle fluid. The brain was not examined.

Dr. Seguin thought it possible that the cerebra ymptoms were due to miliary aneurisms, a condition hich was often associated with that condition of idney, and which was also found coincident with a milar state of the retinal vessels.

RECURRING ASTHMA IN BRIGHT'S KIDNEY.

Dr. **Ripley** thought that recurring asthma was a ymptom which was quite common in Bright's dis- ase, in fact, it might be the only one that at first pre- ented itself. Such cases, for obvious reasons, were romptly relieved by hydragogue cathartics.

Dr. **Van Giesen** remarked that the passage of an icreased amount of urine in these cases of contract- ig kidney was not well explained.

THE SIGNIFICANCE OF POLYURIA.

Dr. **Satterthwaite** remarked it was well known iat the increased secretion of urine and the low pecific gravity of the same were more significant ymptoms of that form of Bright's disease than the resence by themselves of casts or of albumen.

Dr. **Ripley** stated that a patient might pass more ian the ordinary quantity of urine and still be suf- ering from uræmia and anasarca.

Dr. **Seguin** called attention to another quite con- ant symptom, viz., increased arterial tension.

Dr. **Satterthwaite** referred in this connection to ie frequency of hypertrophy of the left ventricle.

Dr. **Van Giesen** remarked that in these cases of olyuria the net amount of urea was less than ormal. He had tested this on one case by frequent aminations extending over a period of eighteen onths. He believed that after all the non-elimina- on of urea probably produced the morbid results.

Dr. **Seguin** stated that a great many of the symp- oms said to be due to hyperæmia were explained by ie condition of contracted kidney. For instance, e attendant arterial tension explained the frequent eadaches in connection with this form of Bright's sease. As a rule, these headaches were confined the brow, but they occasionally occurred in the cipital region.

CEREBRAL EXCITEMENT IN BRIGHT'S DISEASE.

Dr. **Van Giesen** stated that in his case the head- he was occipital. In this connection he again lled attention to the significance of cerebral ex- tement as an element of prognosis. He always nsidered it a bad sign. He mentioned a case in oint of a child recovering from scarlatinous nephritis which sudden hilarity in singing was a striking mptom. An unfavorable prognosis was given ac- ordingly. Convulsions soon after took place, and eath occurred in the course of a few hours.

Dr. **Tauszky** referred to the methods of Dr. Heitz- an in diagnosticating different diseases of the kid- y by the appearances of the fibrinous casts. These ive already been presented to the Society by Dr. eitzman.

CASTS AS PROGNOSTIC SIGNS.

Dr. **Seguin** said that casts in the urine were of emselves of little importance as bearing upon a ave prognosis, and instanced as an example the imber and variety which occur in scarlatinous ne- iritis.

Dr. **Ripley** remarked that in his experience, when the different varieties and sizes of casts were und in scarlatinous nephritis, showing the involve- ent of the entire kidney, that the prognosis was ways grave.

Dr. **Amidon** remarked that the occurrence of albuminuria by itself was sometimes explained by anæmia.

The Society then went into Executive Session.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Annual and Stated Meeting, November 22, 1880.

Dr. A. E. M. **Purdy**, President, in the Chair.

REPORT OF COMMITTEE ON PRIZE ESSAYS.

After the reading of the minutes of the annual meeting and the report of the Auditing Committee, the Committee on Prize Essays reported that only one essay had been sent to them for examination. Its title was, "On the Benignity of the Specific Diseases, with a Tabular History of Three Hundred and Seventy-Eight Cases," by Parva Lux. The committee recommended that the prize be awarded for this essay, because it possessed "so much merit as a conscientious and laborious study of clinical phenomena, and as a valuable and important contribution of new researches and original observations, with such literary excellence in simplicity, and variety of style, and clearness of statement."

The Society adopted the recommendation of the committee, and the President then opened the sealed envelope bearing the motto "Parva Lux," and found the name of Dr. C. L. **Dana**, who was announced as the successful essayist.

On motion, the Society voted to assess each of its members the sum of *two* dollars, in addition to the annual dues, to be used for defraying its expenses for the ensuing year.

COMMITTEE ON HYGIENE—SUPPLEMENTARY REPORT.

Dr. J. C. **Peters** then read a supplementary report from the Committee on Hygiene, which dwelt especially upon the filthy condition of the streets of the city of New York and their influence in the propagation of such diseases as cerebro-spinal meningitis, diphtheria, and scarlet fever. On motion, the request embodied in the report was granted, and the committee was further requested to confer with the Society for Sanitary Reform in the City of New York, concerning the best method by which the special object of their supplementary report could be accomplished.

The President read a communication from the Committee on Law of the Board of Aldermen, asking that the Society appoint a committee to unite with a like committee from the College of Pharmacy of the City of New York, to draft an ordinance regulating the sale of poisons and poisonous drugs and medicines by apothecaries and others in this city. It was referred to the Comitia Minora, with power.

The Secretary offered a series of resolutions intended to provide for the disposal of the volumes of the Transactions of the Medical Society of the State of New York, received annually by the Society. Adopted. The subscription list will be kept open for one month.

REPORT OF THE COMMITTEE ON ETHICS.

The report of the Committee on Ethics, made at the annual meeting, was then taken up, and Dr. H. G. Piffard offered the following resolution, which was adopted:

Resolved, That the report of the Committee on Ethics be adopted, and that the Medical Society of this state be requested to revise the codes of ethics by which the profession of this state are governed.

The Adjourned Annual Meeting then adjourned.

The Stated Meeting was called to order by the President, Dr. A. E. M. Purdy, who thanked the Society for the honor of an election for a second term as its presiding officer.

The following were announced as the standing committees for the ensuing year:

Committee on Ethics: Dr. E. D. Hudson, Jr., Chairman; Drs. Jas. R. Leaming, Walter R. Gillette, Geo. T. Harrison, and Wm. F. Cushman.

Committee on Hygiene: Dr. John C. Peters, Chairman; Drs. E. G. Janeway, C. E. Billington, D. B. St. John Roosa, and A. B. Judson.

Committee on Prize Essay: Dr. Fordyce Barker, Chairman; Drs. H. B. Sands, Austin Flint, and E. Eliot.

Auditing Committee: Dr. W. M. Chamberlain, Chairman: Drs. Ellsworth Eliot and Horace P. Farnham.

On the recommendation of the Comitia Minora it was voted to grant certificates of membership to Drs. W. B. Goldsmith and E. A. Judson.

FOR THE PROTECTION OF THE CENTRAL PARK.

Dr. A. Jacobi offered the following resolution, which was seconded by Dr. Roosa and unanimously adopted by the Society:

Resolved, That the President be authorized and directed to appoint, in case of necessity and at his leisure, an appropriate committee for the purpose of defending the Central Park against any attempts to change its destination.

A communication from Surgeon and Bt. Brig.-Gen. U. S. Army. T. A. McParlin, M.D., was then read, after which the Society adjourned.

BALTIMORE MEDICAL AND SURGICAL SOCIETY.

Discussion on Urethral Stricture.

(Reported for The Medical Record.)

On November 3d the regular discussion was opened by Dr. C. F. Bevan, on

URETHRAL STRICTURE AND ITS TREATMENT BY INTERNAL URETHROTOMY.

Dr. Bevan began his subject by saying that a few years ago the answer to the question, What is the best and most proper treatment of urethral stricture? would have been something like this: To introduce a bougie, and gradually dilate the urethra till a sufficient opening should be obtained, and that a No. 8 or 10 (English) would be sufficiently large; that if the stricture should be very dense, and not readily yield to well-directed efforts at dilatation, or if the case demanded prompt treatment, then divulsion might be practised and followed up by dilatation; and that it would, in extremely few instances, be necessary to do the operation of perineal section with or without a guide; that patience and a little knowledge of anatomy would generally enable the surgeon to find the road to the bladder, in which event dilatation could be relied upon to complete the cure, and that, finally, patients the subjects of stricture were doomed to life-long urethral medication in the shape of sounds and bougies, for such contractions would always return, no matter how carefully the case might be treated.

In the last ten years these views had been energetically attacked by Dr. F. U. Otis of New York, wh
in a series of able papers, proposed new instrument
new principles, and new methods of treatment i
strictured urethræ. Dr. Otis's views had, howeve
made headway very slowly among the great body
surgeons, and are still the subjects of active, not
say acrid debate.

Dr. Bevan has operated for 225 strictures by i
ternal urethrotomy, in 100 cases, and used tho
cases as a basis for the examination of the views
Dr. Otis as proposed by himself in the last edition
his work on "Stricture of the Male Urethra." The
are: The great questions in regard to normal u
thral calibre; the definite proportionate relation b
tween the circumference of the urethra and the org
in which it is situated; the importance of recogni
ing the possibility of stricture of a calibre above t
then accepted normal standard size of the urethr
the common dependence of gleet and often of troubl
some reflex irritations upon such strictures; t
greater frequency of stricture in the anterior part
the canal; the possibility of a radical cure of stri
ture by dilating urethrotomy; the great advantag
of such operation over the dilating procedures, bo
in regard to safety, comfort, time, and permanen
of results.

The results of nearly 300 measurements of t
urethra made with the urethrometer and bulbo
sounds have convinced Dr. Bevan that the form
estimates of the normal size of the urethra, accordi
to leading English and French surgeons, were mu
too small. These estimates were No. 8 English a
No. 21 French for the respective schools. In D
Bevan's experience, the calibre of the urethra was
no instance less than No. 26 French, nor more th
No. 47 French. The latter case had been operat
upon by the late Dr. T. R. Brown, and is probab
the largest urethra on record. The average measu
ment was No. 30 French.

In the experience of Dr. Bevan the meatus is
ways the narrowest part of the urethral canal; it
often contracted when the rest of the urethra is n
mal, and it is frequently the site of cicatricial co
tractions resulting from venereal sores and oth
forms of inflammatory action. From this experien
he concludes that the rule given by Dr. Otis w
afford a more nearly correct guide to the size of t
urethra than can be found in the meatus. It m
be that with a larger experience the relationship
tween the circumference of the penis and the cali
of the urethra can be accepted as proven; at prese
it is a valuable working rule.

Dr. Bevan considers the recognition of strictu
of large calibre of great importance. The freque
dependence of gleet and of troublesome reflex aff
tions upon the contractions invading only sligh
the canal of the urethra needed no demonstratio
The sooner such contractions are recognized a
brought under treatment the better for the patien

An interesting case of purely reflex nervous sym
toms depending on stricture was related, which
briefly as follows:

A well-developed man, forty-three years old, w
suddenly seized with vertigo and cardiac distu
ance, June 13, 1879. He was seen within an ho
after his seizure, at which time most of his sym
toms had abated. He complained of headache, wh
had been quite frequent of late, and of a train
symptoms referable to dyspepsia. Physical exa
nation negative. The first clue to the cause of
symptoms was found when about to examine
urine. It was found that urination required a gr

ffort, and that the water was passed very slowly. When interrogated he admitted having had a stricure eighteen years ago, which had, however, been ured by a distinguished surgeon of New York. He aid he had never had any trouble with his urethra ince that time. On examination, a contraction, admitting a No. 10 F., was found at three inches from he meatus, and at four and a half inches another ontraction was found, admitting only a bulbous ound No. 4 F. The circumference of his penis was hree and a half inches, and normal urethral calibre, s determined by the urethrometer, thirty-four milmetres. After division of the strictures by internal rethrotomy all the symptoms of dyspepsia and his eadache rapidly subsided. He is now in perfect ealth, and a No. 34 F. bulbous sound passes to the ulbo-membranous urethra without detecting any econtraction fourteen months after the operation.

The location of the 225 strictures treated by Dr. Bevan were as follows: including contractions of the eatus there were 38 strictures in the first quarter nch, 47 between ¼ and 1¼ inches, 51 from 1¼ to 2¼ nches, 50 from 2¼ to 3¼ inches, 14 from 3¼ to 4¼ nches, 11 from 4¼ to 5¼ inches, 9 from 5¼ to 6¼ nches, and 5 from 6¼ to 7¼ inches. Out of the enire 225 strictures, therefore, 186, or 82 per cent., vere located in the anterior four and a quarter nches.

Whether stricture is ever entirely cured by any ther method of treatment than that of cutting is xceedingly doubtful. To dilate a stricture up to No. 8 or 10 English, and then send the patient away vith a sound which he must pass during the rest of is life, is certainly not curing it. On the other and, Otis, Mastin, Pease, Brown, Teevan, and others ave placed on record the results of their own expeience, and claim radical cures. Otis reports thirtyne of his first published series of 100 cases in which o recontraction had taken place in from two weeks o three years. In his second series of 136 cases, hirty-eight were examined, and no recontraction ound. Mastin claims nine radical cures out of hirty cases operated upon. Pease re-examined wenty-four out of forty-five cases, at intervals from ne month to two years, and found no recontraction. Brown makes a similar report.

In twenty-seven cases, re-examined after an interval of from four months to three years from the time f operation, Dr. Bevan found no recontraction.

It is probable that even a larger proportion is cured han is indicated by these figures, since most of Dr. Bevan's cases were dispensary patients, who would ot be likely to return unless there was trouble from recontraction.

In the 100 cases upon whom the operations of Dr. Bevan were performed, urethral fever followed in ten cases. This was limited to a chill followed by a rise of temperature from two to four degrees, which subsided in a few hours and did not return. The prophylactic administration of quinine and morphia seems to be of service.

Peri-urethral abscess occurred in one case. The section was made with a Maisonneuve urethrotome. The patient, an old subject of stricture, was seized with retention which he tried to relieve with his own catheter. He drew blood several times, and failing to introduce the instrument consulted two or three physicians without obtaining relief. Dr. Bevan was consulted on the fourth day of attack. His condition was very bad from pain and loss of rest, as well as great nausea, the result of the use of opiates. He had become very weak. A firm, painful swelling was found in the perineum. Under chloroform, a filiform bougie was introduced through the stricture with difficulty, and after it the guide of the Maisonneuve urethrotome, with which the stricture was cut to No. 8 English, and a catheter used to draw his water. Forty-eight hours after the operation the abscess was opened and several ounces of pus evacuated. The week following he was cut to No. 36 F., his normal calibre, without the slightest accident. He was re-examined five months afterward with No. 36 bulbous sound, and no recontraction found.

Acute urethritis followed in three cases, but gave no trouble.

Curvature of the penis, very annoying to the patient, resulted in one case. This passed off within three months without further treatment.

In one instance epididymitis followed the operation; the patient afterward stated that his testicle had been painful for twenty-four hours previous to the operation. No hemorrhage of consequence followed in any of the 225 strictures divided. No deaths occurred in Dr. Bevan's series of 100 cases. In one case the patient was suffering from an attack of pyelonephritis and abscess at the time of operation. The abscess discharged through the ureter and bladder, and after a serious illness of several weeks he recovered.

The suggestion of Dr. E. L. Keyes, to restrict the operation of dilating urethrotomy to the pendulous urethra, while perhaps a wise rule to follow, is of small applicability, inasmuch as from seventy-five to eighty per cent. of all strictures occur in the anterior four inches of the urethra. In the opinion of Dr. Bevan, Holt's operation (divulsion) should be absolutely discarded. It was a dangerous operation, and moreover failed to cure the stricture. The tearing of the tissues is liable to be followed by a traumatic stricture which may become very intractable in the future.

Dr. Coskery said that, notwithstanding the favorable showing made for internal urethrotomy in Dr. Bevan's paper, he was not yet ready to adopt the operation. It should be remembered that dilating urethrotomy was a very youthful operation; one that was still on trial. On the other hand, slow dilatation was safe, settled, and satisfactory. Because a child's head and body could be forced through a woman's vagina during parturition, certainly did not make it desirable that all women should have a vagina with a calibre of 4–5 inches. For the same reason, because a crowbar can be rammed down a man's urethra under certain circumstances does not make it advisable that all men having urethral narrowing should be thus treated. A urethra with a calibre of No. 8 English was large enough for all practical purposes; all that was necessary was to keep it pervious to that extent. With patience and a little knowledge of anatomy a surgeon could introduce a bougie into any opening through which water could pass out.

Dr. Lynch was disposed to look more favorably on the modification of internal urethrotomy introduced by Dr. Otis. Putting the question to himself, if he had a stricture that gave him trouble, he should certainly prefer having his stricture cut to passing a sound into his urethra daily or weekly for the rest of his life.

Dr. Erich, while believing himself possessed of the average amount of patience, was compelled to admit that he had repeatedly been unsuccessful in passing even a filiform bougie through narrow, tortuous strictures. He was not willing to accept the old dictum that where water could pass out a bougie could be passed in, as entirely true. So far as a knowledge of the normal anatomy went, it would puzzle some of the best anatomists to demonstrate a urethra in some of these specimens. A point which he had frequently noticed, and to which he was disposed to attach some importance is, that a narrow stricture might be dilated to a certain size—say to No. 5 or No. 6 English—with comparative ease; but as soon as it was attempted to go beyond that, so much tumefaction followed at the site of the stricture that at the next sitting only a No. 3 or No. 4 English could be passed, and the same tedious work had to be gone over. He decidedly preferred Otis's operation, and believed that radical cure of stricture by its means was possible.

DR. ROHÉ expressed surprise at the reactionary views of Dr. Coskery. Dilatation could certainly not be so safe, rational, and satisfactory a procedure as had been claimed. It was less than ten years since Dr. Otis had presented his novel views on these subjects. During this comparatively brief period the operation of dilatating urethrotomy had been performed perhaps 1,500 times. Surely such popularity could not have been won in face of an established procedure if this had been so reliable and satisfactory as Dr. Coskery claimed for life-long dilatation. Dr. Otis's operation was on trial, it was true; but it was a trial that seemed to be eminently satisfactory to both surgeon and patient wherever it had been adopted. It was worthy of note that the greatest opponents of dilating urethrotomy were those surgeons who had not tried the operation, while those who had once tried it were almost without exception strenuous advocates of it.

Correspondence.

THE SALE OF POISONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—Referring to your article on the sale of poisons in your issue of the 20th instant, I cordially indorse Dr. Peters' suggestion that patented and proprietary articles, such as soothing syrups, cough mixtures, etc., should have *poison* labels upon them.

Many of the pills advertised for the cure of constipation, headache, biliousness, and liver complaint ought to be labelled in the same manner. "The Little Giant Pill" so extensively advertised and sold in the New England States, especially in New Hampshire and Connecticut, contains in each pill ¼ gr. each of ext. belladonna and ext. nux vomica, and serious consequences may be apprehended from the sale of such a remedy.

SMILAX.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 21, 1880, *to November* 27, 1880.

HOFF, J. V. R., Capt. and Asst. Surgeon. Granted leave of absence for one month. S. O. 208, Department of the East, November 26, 1880.

WOMAN'S MEDICAL COLLEGE, NEW YORK.—Dr. Charles L. Dana has been elected Professor of Physiology in the Woman's Medical College of this city.

Medical Items and News.

CONTAGIOUS DISEASES — WEEKLY STATEMENT. – Comparative statement of cases of contagious diseas reported to the Sanitary Bureau, Health Departmen for the two weeks ending November 27, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Nov. 20, 1880.	0	19	132	5	19	150	5	0
Nov. 27, 1880.	0	10	110	4	16	122	3	0

THE ANNUAL MEETING OF THE TRI-STATE MEDICA SOCIETY of Kentucky, Illinois, and Indiana, was hel November 9th, 10th, 11th, and 12th, at Louisvill Ky., "the metropolis," as one of the speakers said "of a people known the world over for possessin and producing the greatest comforts and delights c life—Kentucky tobacco, Kentucky horses, Kentuck whiskey, and Kentucky women."

The hospitalities of the city were bestowed lavishl upon the visitors, many excellent addresses wer made, and a large number of papers were read.

AN ADJOURNED MEETING OF THE STATE BOARD O HEALTH was held in this city November 27th, to consider the matter of its annual report. A resolutio was passed declaring a nuisance certain ponds mad stagnant by railway embankments at Hart's Falls.

The topics to be presented in the annual repor are: the organization of local health boards; the organization of methods for repressing contagious an malarial diseases; sanitary surveys; the manner i which our average population is domiciled, etc.

In regard to the organization of local health boards not much progress can as yet be reported. Ther are in the state 930 townships, 330 incorporated villages, and 24 cities, each one of which is entitled b law to a board of health. There are, in fact, no one hundred local boards in actual operation. It i too soon, however, to expect very much in this direction.

TRYING TO RESUSCITATE A GUILLOTINED HEAD.—Immediately after the decapitation of the murdere Ménesclou, in Paris recently, the body was taken t the School of Medicine for examination. The hea had been severed from the body by a clean cut, th knife having passed through the neck just below th vocal cords. The face was calm and presente nothing particular. M. Dassy, preparator of anatomy, injected into the carotid artery some bloo taken from a live dog. The face of the decease became immediately flushed, and the lips reddened it was expected that some emotional movements o the muscles of the face would take place; but, owin to a misunderstanding, the body had not been give up till five hours after death, which of course interfered considerably with the experiment and mad the results incomplete. However, M. Sappey wa enabled to perform certain interesting experiment on the different muscles of the face by means o electric currents.

Prevalence and Cause of Typhoid Fever.—The nglish journals report an unusual number of outreaks of typhoid fever during the present fall. ome of them have been very severe. They have ocirred for the most part in small rural communities, hose systems of excrement disposal is by pit-privs, and whose water-supply is derived from wells ig in the vicinity of the houses, and, therefore, of ie privies. There is usually no history of any preous case before the outbreak begins; and, unless ie latter is to be accounted for on the pathogenetic ieory, which does not receive general acceptation, ie reason for the outbursts, says the *British Medil Journal*, must be found elsewhere. The most atural explanation would seem to be that which sts upon the presence of old germs of the disease ing latent in the soil. The prolonged drought, ich as England experienced last summer, dried the ibsoil and sunk the level of the water in the wells. eavy rainfalls in the autumn then came and rapidly ercolated through the soil into the wells, carrying iere the infective germs. Such a theory as this is iought to be more rational than to suppose that the isease has arisen *de novo.*

The Harveian Lectures for the coming season re to be delivered in December, by Dr. James E. 'ollock. Subject: "On the Prognosis and Treatient of Chronic Diseases of the Chest in Relation to Iodern Pathology."

Effects of Long-continued Lactation upon the 'varies and Uterus.—Dr. W. Japp Sinclair relates number of cases from whose histories he considers ie following conclusions may be presumed to be ue:

1. Lactation tends to prevent conception by its ifluence on the ovaries in retarding their return to ie state in which ovulation is perfect.
2. After weaning, the evolution of the ovaries becomes more rapid than it is during any period of ictation.
3. After long-continued lactation, its sudden cesation is liable to be followed by a rapid evolution of ie ovaries and uterus, giving rise to symptoms of varian and uterine hyperæmia.
4. Long-continued lactation may cause superinolution of the ovaries and uterus, resulting, under ivorable circumstances, in complete or partial proipse of the uterus.

Clinical Study in American Medical Colleges. -A correspondent of the *Lancet* writes from Philaelphia, concerning the Philadelphia hospitals, as ollows: "The total absence of clinical clerks and ressers could hardly fail to be remarked, the house urgeon's assistant taking the form of a four-wheel o-cart fitted with every requisite. Clinical study in he medical curriculum is apparently unnecessary. was assured that at Jefferson College, which is one f the leading medical schools in the country, a man ight take his degree in medicine and go forth to ractice his profession *without ever having seen a ase!*"

Phthisis and Dampness of the Soil.—The invesigations of Dr. Bowditch and Dr. Kelly, which eemed to demonstrate the causal relation between hthisis and dampness of the soil, have been recently isputed by Dr. Charles Kelly, health officer of West ussex, England. He gives a table showing the geoogical formation of the soil in the different districts nd the corresponding mortality from phthisis. In this it is shown that there are more deaths in the dry districts than in the moist. Dr. Kelly seems to have considered any outside factors that might modify his conclusions. The question evidently needs further study.—*Brit. Med. Journ.*

Castration of Dogs.—It is estimated that sheep to the value of $30,000 were killed by dogs in Kentucky in 1879. It is claimed (*Archives of Compar. Med.*) that castration prevents this tendency to kill sheep.

The Sudden Death of Dr. Louis Presse, of Paris, is announced. Dr. Presse was an eminent *littérateur* and medical journalist. He contributed especially to the *Revue des deux mondes* and to the *Gazette médicale.*

Treatment of Sea-sickness.—Nitro-glycerine in doses of gr. $\frac{1}{100}$ to gr. $\frac{1}{300}$ is highly recommended for sea-sickness by a correspondent of the *British Medical Journal.* In the same paper Dr. R. Bruce Low states that after long experience with many kinds of remedies he has settled down on drachm doses of bromide of potassium as affording the surest relief.

Influence of Music on the Circulation of the Blood.—Dr. Dogiel has made some studies on this subject, from which he concludes: (1) That music has an influence on the circulation of the blood. (2) That it sometimes raises and sometimes depresses the blood-pressure. This influence is brought about by the reflex action of the excited auditory nerve upon the medulla oblongata. (3). Generally the heart beats faster, the automatic motor ganglia being stimulated. (4) Strychnia increases the effect of music; curara lessens it. (5) The effects vary with the pitch, loudness, and tone of the music.

Removal of Three Ovaries.—In the *Allgemeine Wiener medizinische Zeitung* (No. 36) is a short notice of an ovarian operation performed by Dr. Fritz Keppler, a German physician settled in Venice, which was undertaken for the purpose of removing what appeared to be ovarian and tubal degenerate growth on both sides. In the course of the operation, however, it appeared that there was a fully formed third ovary and tube, which were also the seat of disease, so that it was necessary to perform extirpation of the three ovaries and three tubes. Such an anatomical anomaly is, it is stated, previously unknown; so that the case is one of great anatomical as well as surgical interest. The operation was entirely successful.—*Brit. Med. Journ.*

Stramonium-Poisoning and Stammering.—Dr. J. H. Straughn, of Lexington, Mo., writes: "Some time since I had a case of stramonium-poisoning in a child —gave an emetic and a purgative, and used morphia hypodermically; child made, as I thought, a perfect recovery; but I have recently learned that she *stammers badly,* something she never did before the poisoning."

The New York Society for the Relief of Widows and Orphans of Medical Men held their thirty-eighth annual meeting on the evening of November 24th, Dr. S. T. Hubbard in the chair. The laws governing this society entitle the widow of a member to $400 per annum, but for every $10, or multiple of $10, of income possessed by the widow, an amount equal to fifty per cent. of said income must be deducted from the annuity, and an orphan is entitled to $100 per annum, subject to like conditions. The earnings of a widow or of the children by their own industry are not considered as income subjecting the annuity to deduction. In special cases the aged father, the widowed mother, or aged sister of a deceased member who had been dependent upon him for support may receive assistance at the discretion of the Board of Managers, or by a three-fourths vote of the members. The society numbers 150 members. The Treasurer's report showed the total assets of the society to be $129,825.05. The receipts during the past year were $10,727.72, and for the same period $4,618.75 was paid out in annuities, and $115.80 for miscellaneous expenses. The following officers were elected: *President*—Dr. Willard Parker; *Vice-Presidents*—Dr. Jared Linsly, Dr. Isaac E. Taylor, and Dr. S. S. Purple; *Treasurer*—John H. Hinton; *Managers*—Dr. S. T. Hubbard, Dr. William Detmold, Dr. Charles Wright, Dr. John G. Adams, Dr. J. Wiener, Dr. William N. Blakeman, Dr. E. C. Seguin.

Small-pox is committing dreadful ravages among the Indians who people the sparsely settled districts on the north shore of the Gulf of St. Lawrence. Information recently received by the Canadian government shows that they are dying by hundreds. A panic has seized the survivors and they have fled from the dead and dying, leaving the former unburied and the latter uncared for, to seek refuge in the woods, where their trails are marked by lines of corpses. The worst feature of the case is that when a doctor was sent by the local authorities to relieve the condition of the distressed savages, it was found that he was a political opponent of the Board, and he was at once recalled, and the panic-stricken district left to itself until a medical man of their own political stripe can reach it.

A New Hypodermic Syringe.—Dr. W. R. Leonard writes: "In the Medical Record of Nov. 20th, p. 587, you mention a new hypodermic syringe by Dr. John M. White, of Pleasant Ridge, Ala. Allow me to draw your attention to the fact that such a syringe as described by Dr. White has been in use for the last eight years, was published in the *New York Medical Journal* for October, 1876. It is illustrated on page 901 of Shepard & Dudley's illustrated catalogue of surgical instruments."

Alms-House Hospital, B. I.—Warden Vought, of the Alms-House, Blackwell's Island, has just fitted up a beautiful new dispensary for the occupancy of the Resident Medical Staff of the Alms-House Hospital, thus supplying a long-felt want.

Ocular Defects and Constitutional Diseases.—Dr. George T. Stevens writes: "In his recent card Dr. Roosa fully confirms the statement made in my note of November 6th. The point to which I call attention of the readers of the Record is, that a lecturer who attempts to convince his auditors and readers that views advanced by myself 'are probably not founded upon accurate observations,' while he utterly fails to establish even a fair ground of suspicion against me in this respect, actually convicts himself of 'inaccurate observations' in regard to the central case of his lecture. The case which, he says 'has induced me to speak to you on this subject.'

"In the lecture, the author starts upon indirect authority, that in the case reported the headaches had been 'attributed to a want of co-ordination of the internal recti and . . . . . it was now advised that the *external recti be cut*.'

"He now publishes an extract from a letter from his informant in which it is stated that 'Dr. Stevens proposed the same operation that he had performed on his cousin. I understood this to be *partial tenotomy* of *internal rectus of one eye*.' Now, as Dr. Roosa has introduced a second case in order to show that I have performed a certain operation in one case and might in another, it may be of interest to know what he does not state. That the cousin to whom he refers, has, during the year which has passed since the operation referred to, enjoyed a degree of health to which she had previously been a life-long stranger, and that whereas she had from early childhood suffered from neuralgic headaches of most intense character, occuring so frequently as clouded her whole life, she is now free from her terrible attacks. It may also be a matter of interest that in respect to all the tests of muscular power spoken of in Dr. Roosa's lecture, the cases of the two cousins were, to a singular degree, alike.

"It is not my purpose here either to discuss the peculiar logic of Dr. Roosa's lecture, nor to present new evidence regarding the value of my own views In due time, however, I shall present many instances in which tenotomy, more or less complete, of the internal rectus has been performed with the most marked beneficial results in cases in which the muscular relations have been similar to those in the cases spoken of by Dr. Roosa."

Poisoning by Ergot.—Dr. M. F. Leary, of Gaylord, Kansas, writing to Dr. J. M. Keating, of Philadelphia, says: "Referring to your articles in the Record of October 18th and November 13th, and Dr. Radcliffe's criticism on your diagnosis, I beg to state that some two years since I had about the same experience with ergot that you have detailed The case was in my own practice, *a case of miscarriage*, and when everything was doing nicely, ℥ss. o 'Squibb's' ergot was given by error, ʒj. every half hour, followed by an alarming collapse and symptom much resembling those observed in your case. Sinc seeing your article I have written the case up an sent it to the *New Orleans Medical and Surgica Journal*, believing that this drug is more dangerou than commonly supposed. I can find but one othe instance on record of poisoning from ergot. In my own case I am satisfied there was neither hemorrhage, shock, nor idiosyncrasy at work, but purely case of poisoning from ergot."

Dr. C. R. Agnew has been chosen to fill the vacancy in the State Electoral College.

Philadelphia's Coroner.—Dr. W. S. Janney wa made Coroner of Philadelphia at the recent electior This makes the third medical incumbent of this offic as Dr. Janney's predecessors were Drs. Kingsto Goddard and W. Kent Gilbert. The politicians a last seem to recognize the fact that no one but physician can be acceptable to the voters.

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Books Received.

On the Use of the Cold Pack, followed by Massage, in the Treatme of Anæmia. By Mary Putnam-Jacobi and Victoria A. White, M.I New York: G. P. Putnam's Sons. 1880.

Care and Culture of Children. By T. S. Sozinskey, M.D., Ph.I Philadelphia: H. C. Watts & Co. 1880.

Elementary Treatise on the Function of Vision. By Dr. Giraud-Te lon, Paris. Translated by Lloyd Owen, F.R.C.S.I. London: Ba liere, Tindall & Cox.

Diagnosis and Treatment of Ear Diseases. By Albert H. Buck, M.I New York: W. Wood & Co. (Wood's Library of Standard Medic Authors.)

Descriptive Atlas of Anatomy. 92 royal 4to plates. Philadelphia: B. Lippincott & Co. 1880.

Is Consumption Contagious, and can it be Transmitted by Means Food? By Herbert C. Clapp, A.M., M.D. Boston: Otis Clapp Son. 1880.

Original Lectures.

CARTWRIGHT LECTURES,* ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

By ROBERTS BARTHOLOW, M.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

(Special Report for The Medical Record.)

Lecture IV.

CHLORAL AND STRYCHNIA—CHLORAL AND PICROTOXINE—CHLORAL AND ATROPIA—OPIUM AND VERATRUM VIRIDE—OPIUM AND GELSEMIUM—OPIUM AND ACONITE—MORPHIA SUBCUTANEOUSLY AND CHLOROFORM BY INHALATION, ETC.

The discovery of chloral hydrate and of the antagonism between this agent and strychnia by Liebreich are followed by a vast number of researches upon the subject, and the literature of chloral accordingly has already become enormous. As we are concerned at present only with the antagonisms of chloral, however, I shall confine myself to what has been accomplished in the elucidation of these. In the first place, Liebreich demonstrated that animals which had been thrown into a deep stupor by lethal doses of chloral were aroused by the administration of strychnia, which thus proved the means of saving their lives. Again, if a lethal dose of strychnia were given to two rabbits, and to one of them fifteen grains of chloral were given in addition, the one which received the strychnia alone would die in tetanic convulsions in the space of ten minutes, while the other would sink into a quiet sleep, lasting perhaps a couple of hours, from which it would awake in the same condition as before either agent was administered. Such a striking experiment would seem to afford conclusive evidence of the existence of the antagonism between chloral and strychnia; but the results of the researches of Liebreich have been abundantly confirmed by the labors of other observers, and especially by the exhaustive investigation of the subject undertaken by the committee of the British Medical Association, of which Dr. J. Hughes Bennett was chairman. The conclusions which they reached were as follows:

"(1.) That after a fatal dose of strychnia, life may be saved by bringing the animal under the influence of chloral hydrate.

"(2.) That chloral hydrate is more likely to save life after a fatal dose of strychnia than strychnia is to save life after a fatal dose of chloral hydrate.

"(3.) That after a dose of strychnia, producing severe tetanic convulsions, these convulsions may be much reduced, both in force and frequency, by the use of chloral hydrate, and, consequently, much suffering saved.

"(4.) That the extent of the physiological antagonism between the two substances is so far limited that a very large fatal dose of strychnia may kill before the chloral has had time to act, or so large must be the dose of chloral hydrate to antagonize an excessive dose of strychnia that there is danger of death from the effects of the chloral hydrate.

"(5.) Chloral hydrate mitigates the effects of a fatal dose of strychnia by depressing the excess of reflex activity excited by that substance, whilst strychnia may mitigate the effects of a fatal dose of chloral hydrate by rousing the activity of the spinal cord; but it does not appear capable of removing the coma produced by the action of chloral hydrate on the brain."

Husemann, who made a careful investigation of the antagonism supposed to exist between chloral and strychnia, holds that the former is an antidote to the latter, overcoming the spasms and preventing death, and that it acts in the same way in regard to the strychnia-basis known as brucin.

(Having alluded to the experimental researches concerning the antagonism conducted by Rajewski, Erlenmeyer, Arnould and Oré, the lecturer proceeded to discuss the results obtained from clinical experience.) I have found seven cases of strychnia-poisoning in which chloral was the principal or only agent employed in the treatment, and they were all successful. I have also found severe cases of strychnia successfully treated by chloroform-inhalation, and if we accept the view of Liebreich that the effect of chloral is due to the disengagement of chloroform in the blood, these will afford additional and confirmatory evidence as to the reality of the antagonism. I have been unable to find any instances of chloral-poisoning in which strychnia was adequately employed as an antidote. In summing up the evidence we are forced to conclude that chloral hydrate and strychnia are antagonistic; but at the same time it is true that chloral is an antagonist to strychnia-poisoning rather than that strychnia is an antagonist to chloral-poisoning. In the treatment of the toxic effects of strychnia by chloral, the doses of the latter employed should depend upon the symptoms observed. Sufficient chloral should always be given to put an end to the spasms caused by the strychnia, in order to prevent a stoppage of the respiration through fixation of the respiratory muscles, which is one of the chief dangers to be apprehended. The amount will vary according to circumstances. In the case of a Sioux Indian treated by Dr. Turner, 105 grains of chloral were given within four hours. The quantity of strychnia taken could not be ascertained; but the chloral was kept up until there was no tendency to a return of the spasms.

When strychnia is used in chloral-poisoning, the object is to overcome the tendency to failure of the heart and respiration by stimulating the cardiac and respiratory centre, and the doses required are probably considerably less than would be supposed theoretically. About one-sixtieth of a grain should be given at first, and after that one one-hundred-and-twentieth of a grain repeated every half-hour until the maximum is approached.

Let us now consider the mechanism of the antagonism between chloral and strychnia, and in order to do this we must understand the physiological action of each. Chloral, with or without a brief stage of excitement, produces sopor closely resembling natural sleep, and in lethal doses, coma and insensibility. In toxic doses, therefore, it suspends the cerebral functions. It acts in like manner on the spinal cord, preventing reflex action and motility, although it does not interfere with sensibility until the cerebral functions are suspended. It enfeebles the heart's action, reduces the arterial tension, and lowers the temperature to a considerable extent. Under its influence respiration becomes gradually slower and more shallow, and is finally arrested. Death takes place either from paralysis of the heart or of the respiration, or may be due to the arrest of both the circulatory and respiratory functions simultaneously.

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* Of the Alumni Association of the College of Physicians and Surgeons, New York.

Strychnia, on the other hand, does not affect the cerebral functions at all, but acts energetically on the spinal cord. It exalts its reflex irritability, and is a motor excitant. It also has the effect of stimulating respiration, strengthening the heart's action, and raising the arterial tension. Chloral and strychnia can hardly be regarded as antagonistic in their effects on the cerebrum, since the former suspends its functions, and the latter does not affect it in any way; but in regard to the spinal cord, their antagonism is very complete, strychnia exalting its functions and chloral interrupting them. Thus, by stimulating the respiratory and vaso-motor centres in the cord, strychnia counteracts one of the chief dangers from chloral narcosis. The great danger from strychnia is tetanic fixation of the respiratory muscles, and this is obviated by the action of chloral. This antagonism is more complete than the opposite one. Whence it follows that chloral is more useful in strychnia-poisoning than strychnia in chloral-poisoning.

CHLORAL AND PICROTOXINE.

Husemann, in his investigations of the antagonisms of chloral, found that picrotoxine was to be included among the agents that act in opposition to it. The only reliable researches in regard to this antagonism are those of Dr. J. Crichton Browne, of the West Riding Lunatic Asylum, England. Picrotoxine, it may be stated, is the active principle of *Cocculus Indicus*, but it is not properly an alkaloid, and does not combine with acids to form salts. Its action on the brain is to produce delirium and stupor, and it gives rise to epileptiform, tonic, and clonic convulsions, which are succeeded by coma and insensibility. It has the power of suspending the reflex functions, as well as the irritability of both the motor and sensory nerves.

At first respiration and the pulse-rate are quickened by it for a brief period; but this preliminary excitement is quickly followed by a more permanent depressing effect, the respiration becoming shallow and the heart's action enfeebled. The temperature, also, which at first is slightly elevated, becomes reduced, especially after the convulsions. On comparing the physiological effects of the two agents, therefore, we find that they are antagonistic in their effects on the cerebrum and spinal cord, but not on the heart and respiration. Dr. Browne summarizes his conclusions from experiments on animals as follows:

"Chloral hydrate is physiologically antagonistic to picrotoxine in rabbits and guinea-pigs, and may save life when administered fifteen to twenty minutes after a fatal dose of the latter. There is no antagonisms exerted between these two agents on cats; death being caused by paralysis of the heart, a result in which both participate." An examination into the mechanism of the antagonism, which, from Dr. Browne's researches, it must be admitted is very limited, shows that it must be confined to the cerebrum and the reflex, motor, and sensory functions of the spinal cord, not extending to the cardiac and respiratory functions.

CHLORAL AND ATROPIA.

The antagonism between chloral and atropia was first studied by myself, and later by Husemann, Fothergill, and others. The physiological actions of both of these agents having already engaged our attention, we may proceed directly to an examination of their antagonistic action. On the brain and spinal cord they act in an opposed manner to a limited extent. Atropia diminishes the hypnotic effect of chloral, and the stupor and insensibility produced by it are counteracted by atropia in the same degree as by strychnia. On the spinal cord they act in a different manner, and, to a certain extent, antagonistically. The action of atropia on the spinal cord and veins is of a complex nature; having a tetanizing effect upon the cord, exalting its reflex function, and paralyzing the motor nerves, while it greatly diminishes the irritability of the sensory nerves. On the other hand, chloral suspends the reflex function of the cord and causes a paralysis which is purely spinal. Both the agents, however, produce motor-paralysis. On the circulation and respiration their action is decidedly and obviously antagonistic; a point which is abundantly confirmed both by clinical experience and experiments upon animals. In animals, however, owing to the fact that such drugs have a more concentrated and overwhelming effect on the brain, on account of their less complex cerebral development, only rarely does it occur that death can be averted by the employment of the antagonist after a lethal dose of either of them.

Whilst the good effects of atropia in preventing death from chloral by failure of the heart's action are very probable, it does not follow that the converse of this is true. Although there are no clinical or experimental data to depend upon in regard to this point, it must be granted that chloral could only act in the same manner as morphia under the circumstances, viz., by reducing the strain upon the cardiac and respiratory centres caused by the stimulating effect of the atropia. In cases of poisoning by chloral it is better to give a small dose of atropia and repeat it at short intervals until the characteristic effects of the drug are noticeable, rather than to administer a large dose at once. Unless caution is observed in this respect, the evils of atropia-poisoning may be added to chloral-narcosis. When there is a return of reflex irritability, an improvement in the pulse and respiration, and a dilatation of the pupil, all the good effects that can be obtained by the use of the antagonist have been secured, and it would only be foolish and dangerous to persist further in its employment.

THE ANTAGONISTS TO THE CARDIAC AND RESPIRATORY DEPRESSANTS.

We have now reached a most important and interesting point in the course. From a physiological, as well as a clinical point of view it is very desirable to know the various relations existing between those remedies which act upon the heart and the lungs. Let us first consider the action of .

OPIUM AND VERATRUM VIRIDE.

It has long been known that tincture of opium counteracts the depressing effect of veratrum viride upon the circulation, though I have been unable to find when or by whom this was discovered. The first instance of opium-poisoning treated by veratrum viride, so far as I am aware, is that reported by Dr. J. S. Todd, of Georgia. The patient took, with suicidal intent, a quantity of laudanum representing forty grains of crude opium. Emetics were administered, but they did not act until long after the whole amount had been absorbed. The other treatment consisted in the hypodermatic injection of tincture of veratrum viride and whiskey, and of atropia until the pupils became dilated. When so many agents were resorted to, it must have been difficult to decide which was of the most service in overcoming the opium narcosis; but Dr. Todd attributed the principal effect to the veratrum viride. Dr. Haldeman, of Zanesville, Ohio, also reports cases of opium-poisoning successfully treated with veratrum viride. No experimental researches have as yet been published in regard to the antagonism; but during the past summer and autumn I have been making a series of experiments upon animals (rabbits chiefly), at my laboratory at the Jefferson Medical College, for the purpose of testing it. In the first place I ascertained that the minimum lethal dose of fluid extract of veratrum viride (U. S. P.) was three minims per pound weight. To this quantity from three to five minims (according to the weight of the animal experimented upon) of Magendie's solution of morphia seems to be antagonistic. When the antagonist was used in the proper proportion, the nausea and vomiting, the muscular paresis, and the depression of the heart and respiration were all prevented, and the animal's life saved. When the effects of the morphia preponderated the pupils became contracted, convulsions were produced, drowsiness, deepening into coma, succeeded, and the effects of the veratrum viride disappeared. The same results were observed when frogs were employed instead of rabbits; and the antagonism would seem, therefore, to be clearly established. I found that the antagonism was exerted after ten, and even twenty minutes; but further experiment is necessary to determine whether this is the case at a longer interval. An interesting feature about the antagonism is that whether opium is used against veratrum viride, or *vice versa*, the opposed action is equally marked.

It is now incumbent on us to study the nature and mechanism of this antagonism. Veratrum viride has no effect on the mental functions, but causes cerebral anæmia; while opium causes excitement of the mental functions, followed by drowsiness, coma, and insensibility. Veratrum depresses the vaso-motor centres, and reduces the arterial tension and the temperature; while opium (if the dose is less than lethal, and especially in the form of morphia subcutaneously injected) stimulates the vaso-motor functions, increases the arterial tension, and maintains the temperature. On the heart-muscle, veratrum viride acts as a direct depressant, and on the respiratory muscles as a paralyzer; while opium in doses less than lethal has a marked effect in maintaining respiration and the action of the heart. Veratrum viride increases secretion generally, the saliva and sweat especially; while opium diminishes secretion, as a rule, though under some circumstances it increases perspiration. Veratrum is a paralyzer, acting upon the motor-spinal functions, but leaving the motor nerve-trunks and muscles intact; while opium, in less than lethal doses, opposes the action of veratrum viride in this respect. I cannot too strongly insist upon the difference in the action of opium when given in medicinal and in lethal doses, and in using it to counteract the effects of a poisonous dose of veratrum viride. It is much better to employ the former than to administer the remedy so freely that its effects will approximate those of the veratrum viride.

A sufficient number of cases have now been reported to fully establish the utility of employing one of these agents, if judiciously administered, to counteract the effects of a poisonous dose of the other.

OPIUM AND GELSEMIUM.

The action of gelsemium in general resembles that of veratrum viride, but in some particulars there are important differences between the two. Gelsemium is more distinctly a paralyzer, causing drooping of the upper eyelid, dilatation of the pupil, and diplopia, by paralyzing the third nerve. By its action on the brain it causes drowsiness and stupor, but does not interfere with the mental functions until its effects have resulted in carbonic acid narcosis. Gelsemium paralyzes the respiration, which ceases before the action of the heart. It is not, as generally supposed, an arterial sedative, since the depression of the circulation is merely secondary to its depressing effect on the respiration. The paralyzing action of gelsemium is spinal; neither the motor nerves nor the muscles being affected by it. It is obvious that opium in medicinal doses must be antagonistic to gelsemium, preventing the respiratory and cardiac depression, and averting death, unless the nervous centres be entirely overwhelmed by the amount of the poison. A striking instance of the antagonistic action of the two agents in man is afforded in a case related by Dr. George S. Courtright in the *Cincinnati Lancet and Observer*, in which life was saved by the subcutaneous injection of morphia after probably a tablespoonful of tincture of gelsemium had been taken.

On animals I have pursued the same line of observations as in the case of veratrum viride, and have found that the antagonism is admirably shown on the pupil, the respiration, and the action of the heart; although I have not been able to avert death on account of the severity of the cerebral effects of the two agents. In the same way morphia antagonizes the depressing effects of aconite; and the same facts which hold good in regard to the opposed actions of opium and veratrum viride, have been proved both experimentally and clinically to be true of those of opium and aconite.

MORPHIA AND COCAINE, THEINE, CAFFEINE AND GUARANINE.

One of the most interesting researches undertaken by the committee of the British Medical Association, of which Dr. Bennett was chairman, was that in regard to the supposed antagonism between morphia on the one hand and the alkaloids of coca, tea, coffee, and guarana on the other. It was found that the physiological action of these alkaloids was practically identical; their effects being "cerebral excitement, succeeded by coma, when the quantity is large; loss of sensibility, which is partial when the dose is small, and complete when the dose is large; tetanic spasms and convulsions; and paralysis of the posterior columns of the spinal cord and the peripheral sensory nerves, leaving the anterior columns and the motor nerves unaffected. At first they increase and finally they diminish the force and frequency of the cardiac contractions, and first irritate and then paralyze the vaso-motor nerves." It will be seen, therefore, that some of these actions are promoted, and others opposed by morphia. The researches of the committee demonstrate that there is some foundation for the popular idea that strong decoctions of tea and coffee are of service in opium-poisoning. Thus, they found that theine was antagonistic to miconate of morphia, and that the action of one so far modified that of the other as to avert death after a fatal dose of either.

MORPHIA AND CHLOROFORM.

As paralysis of the heart or of the respiration, or possibly by the simultaneous depression of both functions, is the mode of death from chloroform and other anæsthetics, it is certainly very desirable that we should have an agent which will antagonize and prevent this fatal tendency. In the subcutaneous injection of morphia I am entirely convinced that we do possess such an agent; and it is a matter of great surprise to me that surgeons have not more generally availed themselves of the indisputable advantages of mixed anæsthesia. It was about the same time that Claude Bernard and Nussbaum demonstrated the great utility of the method of inducing anæsthesia by the subcutaneous injection of morphia combined with the inhalation of chloroform—Bernard administering the morphia a few minutes before commencing the inhalation, and Nussbaum not until the latter was well under way. Morphia and chloroform act on the same cellular elements of the brain, and agree in the production of anæsthesia, but they are opposed in their action on other structures and organs—an opposition which renders their combined use safer. When morphia is injected before the inhalation of the anæsthetic is begun (which is the preferable method on account of the manner in which it facilitates the latter), the irritability of the bronchial mucous membrane is so far overcome as to permit the inhalation to proceed quietly; the stage of excitement is prevented, and consequently the danger from asphyxia which sometimes accompanies this; the nausea and vomiting are also obviated, and the anæsthetic effect is prolonged without the aid of further inhalation. In addition, the nausea and vomiting, after-pain and depression which follow the use of anæsthetics, as well as the dangerous syncope which sometimes results, can be prevented to a great extent by this method. If the morphia and the chloroform inhalation be carefully and properly combined, it is possible to produce anæsthesia without loss of consciousness, a point in regard to which Bossis says in his thesis on this subject: "There may be obtained in man, with a little attention, by the combined action of chloroform and morphia, a state of complete insensibility to pain, with preservation, to a partial extent, of the intelligence, tactile sensibility, auditory and visual, and of the voluntary movements. From the practical point of view, the analgesia obtained by the combined action differs completely from the demianæsthesia caused by the employment of chloroform or ether singly, in that it is not preceded or accompanied by a period of hyperæsthesia with violent excitement, and the tendency to exaggerated reflex arrests of the heart and after-syncope."

From the practical experience thus far accumulated there can be no doubt that morphia, used after the method of Bernard, greatly facilitates the induction of anæsthesia and materially diminishes its dangers. I have maintained that for this purpose atropia in combination with morphia should be preferred to morphia alone, on account of the greater stimulating effect thus produced upon the cardiac and respiratory centres. It might, perhaps, be supposed that atropia alone would be better than morphia; but it must not be forgotten that stimulation is inevitably followed by reaction, and morphia has a power of continued support which atropia does not possess. When administered together under the circumstances, the evil effects of both are antagonized, and the power of both to support the heart and respiration utilized. The quantity of morphia employed should rarely exceed one-fourth of a grain, and of atropia one-hundredth of a grain.

(Having spoken of the effect of strychnia as a stimulant of the respiratory function, the lecturer proceeded as follows:)

An opposition of actions has been determined to exist between

STRYCHNIA AND NITRITE OF AMYL.

These substances act antagonistically on the nervous system of animal life and on the sympathetic system. Nitrite of amyl suspends the reflex function of the spinal cord, and causes paralysis of the muscular system, death ensuing from paralysis of the respiratory muscles. Its most characteristic effects are those upon the heart and arterial system; the arterial tension being depressed to the lowest point, while the action of the heart is necessarily very greatly increased on account of the enormous dilatation of the peripheral vessels produced. These effects being the opposite of those caused by strychnia, an antagonism may be presumed from a physiological standpoint, and the experimental researches of Dr. Gray, of Glasgow, strongly support this view.

(The hour having now expired, Dr. Bartholow was obliged to omit a portion of the lecture, and concluded in the following words:)

With the antagonisms discussed in this lecture rather hastily, as the subject matter of the course will permit no fuller treatment, I close this part of the subject, or the antagonism between medicines. I have yet to discuss, in the remaining lectures, that large and important practical subject—the antagonism between remedies and diseases.

In my next lecture, I will, therefore, begin the consideration of this topic, which will not only enforce the lessons derived from the study of the physiological antagonisms between medicines, but will, I hope, demonstrate a path which we may surely follow in the treatment of many diseases.

Eighty-three Grains of Opium vs. One quarter of a Grain of Atropia.—Dr. J. W. Bryant reports, in the *Virginia Medical Monthly*, a case of opium-poisoning successfully treated with gr. ¼ of atropia. The patient, a man, had taken ℥ iiss. of laudanum on an empty stomach. Two hours passed before anything was done for his relief. Emesis could not be produced, and as there was no stomach-pump, Dr. Bryant had to rely entirely on atropia. One-fourth of a grain was given hypodermically in four hours in six doses. When it was given the man had marked symptoms of opium narcosis: lightly contracted pupil, slow and labored respiration, slow and weak pulse. The first perceptible effect of the atropia was after the second dose, when the pupil began to dilate slowly; it was not fully dilated until after the sixth dose. The pulse continued to rise until from 55 it was 125. There was no effect upon the respiratory centres. The galvanic battery was used for a time with no very striking result. At one A.M. the patient was left, the physicians not knowing whether he would live or die. Next morning he was awake and conscious, but in the condition of a man who had been on a "big spree." Some delirium appeared the next day, but the patient was soon in good condition again. His bowels were not constipated.

Original Communications.

AMBLYOPIA FROM THE ABUSE OF TOBACCO AND ALCOHOL.

By DAVID WEBSTER, M.D.,

NEW YORK.

(Read before the Medical Society of the County of New York, November 29, 1880.)

Mr. President and Gentlemen—In coming before you this evening with some remarks upon the amblyopia or impairment of vision, which arises from the abuse of alcohol and tobacco, I believe I have selected a subject which will prove to be of interest to the general practitioner as well as to the specialist. Probably every physician has to deal with the poisonous effects upon the nervous system of alcohol and tobacco in one form or another. And, I think, the careful medical man, when called to a case of chronic disease in the adult male, and even in some cases of acute trouble, rarely omits to inquire into his habits as regards the use of tobacco and spirits, and often finds it necessary to regulate, or to forbid entirely the use of these drugs.

That the abuse of alcohol alone, or of alcohol and tobacco combined, may produce impairment of vision, ranging all the way from the slightest blurring to total blindness, no physician acquainted with the subject will, I think, venture to deny.

Some, however, doubt that *tobacco alone* ever causes impairment of vision. And indeed it is difficult to demonstrate, beyond all controversy, that it ever does. Such cases seem to occur very infrequently in this country, and when we meet with one of them we often find it very difficult to exclude all other causes of amblyopia. Take, for instance, the case of J. A. (No. XII. of the cases herewith presented). He was sixty years of age, and had smoked a strong pipe most of the time when awake, for over forty years. He had rarely tasted liquor. He had never had syphilis nor malarial disease. In short, no other probable cause could be found for his impairment of vision than his being perpetually subjected to the poisonous influences of his pipe. On the other hand, how often do we meet with cases of amblyopia for which we can find *no* probable cause! May this case not have really belonged to that category, and the excessive use of tobacco merely a coincidence? We think the sequel goes to prove that it was really a case of tobacco amblyopia. The patient's tobacco was cut off, and, at the end of a week, without any treatment or medication, his sight had doubled itself in one eye and *nearly* doubled itself in the other.

Dr. Edward T. Ely, of this city, recently examined the eyes and tested the vision of 102 workers in tobacco, chiefly cigar-makers. The doctor sums up his results in the following words: "My own impressions, gathered from these examinations as well as from other experience, are, that tobacco has of tself only a comparatively slight influence in impairing the vision; that working in tobacco is as healthful as most other sedentary occupations; that n certain persons peculiarly susceptible to it, or, when combined with other noxious influences, it may mpair the vision or the general health, just as has been claimed for it; and that constant contact with t, as with other poisons, may beget a tolerance of it ufficient to contradict all theory." The doctor also says, and, I think, correctly: "A tobacco amblyopia is mentioned in all modern text-books on the eye, and most ophthalmologists believe in it, and on good and sufficient evidence, so far as we can judge."

Mr. Jonathan Hutchinson, of London, seems to have no doubt of the effect of tobacco in producing amblyopia. In the Ophthalmic Hospital reports, vol. vii., he publishes twenty-nine cases that have come under his care. Of these cases he says: "For myself, I may briefly avow that I have scrupulously investigated other possible causes, and that I feel no hesitation in believing that in most of these cases tobacco is the real one." In two of Mr. Hutchinson's cases there was white atrophy of both optic disks with total blindness. In one case the disks were very white and the patient had only perception of light. The other cases had vision ranging from perception of light to two-thirds the normal. Mr. H. states in this article that he has long held the opinion "that when tobacco causes blindness it does so in virtue of an idiosyncrasy," and that "it is by no means improbable that such idiosyncrasy will be found occasionally in several members of the same family."

As regards such family idiosyncrasies, I have seen several instances of optic nerve atrophy occurring in adult males who were brothers, but, in these cases, the disease could not be attributed to the use of tobacco, nor could any very probable cause be assigned.

In vol. viii. (*ibid.*) Mr. H. publishes tables containing the "facts as to progress" in sixty-four cases of tobacco amaurosis. "Recovery or great improvement took place in seventy-five *per cent.* In four cases the disease was arrested, sight remaining stationary after a certain degree of failure. In seven cases sight became worse while under care, and five others were quite blind when first seen, and are believed to have continued so."

The fact that so careful and so competent an observer as Mr. Hutchinson has made a diagnosis of tobacco amaurosis in so large a number of cases is, of itself, one of the strongest of arguments in favor of the existence of such a disease. At the same time, it would appear that it is met with much more frequently in England than in any other country. This, according to Mr. Hutchinson, seems to be accounted for by the fact that the poorer classes of Englishmen usually smoke a kind of tobacco called *shag*, one of the strongest and worst of its forms.

As regards the ophthalmoscopic appearances found in amblyopia from alcohol and tobacco, I think all ophthalmologists will agree that "there is no special lesion of the fundus of the eye that would at once enable one to diagnosticate the nature of the disease as depending upon the excessive use of alcohol or tobacco."

Before making a diagnosis of amblyopia from tobacco and alcohol, we must get in all the facts which go to make up the case—the clinical history, the symptoms, subjective and objective, the various complications, the habits of the patient, as well as the ophthalmoscopic appearances.

I must confess, however, that when a man comes to me on account of failing vision, and I find the characteristic "chloroform odor" on his breath, and the scent of tobacco issuing from every pore of his skin—a condition which is quickly appreciated while making an ophthalmoscopic examination by the direct method—I at once suspect that I have discovered the cause of his affection, and am only likely to have my opinion changed by *positive evidence*, ophthalmoscopically, or otherwise. For instance, if I found such a patient had choroidal atrophy, or choked disk, or incipient cataract. I would hardly refer these to alcohol and tobacco as a cause.

The ophthalmoscopic appearances in this disease are, however, within a certain range, quite constant, and are always referable to the optic nerve and retina. When seen in its earlier stages, there are the appearances of a low grade of neuritis, or, at least, of hyperæmia of the optic disk. Later on, there are appearances of incipient optic-nerve atrophy.

In the cases herewith presented, the ophthalmoscopic lesion most frequently noted was "incipient atrophy of optic nerves." This was noted in seven cases out of the twenty. In two cases, "optic disks too pale;" in two cases, "optic disks of a dirty, brick-dust color;" in two cases, "nasal half of disk too red and temporal half too white;" in one case, "disks too pale, and white bands by the sides of some of the retinal vessels," showing the existence of a perivasculitis.

In some cases, not well enough recorded to be included in this paper, we find it noted: "Fundus has a smirched, dirty look, but no lesion," or, "smirched condition of optic disks; surface of disks red and outline seen with difficulty, yet an abnormal whiteness shining through from beneath the surface; venous pulsation." Of course, it is only possible for those skilled in the use of the ophthalmoscope to appreciate these nice distinctions in the ophthalmoscopic appearances, but the physician will readily understand us when we say that they all refer to different degrees of vascularity, of inflammation or atrophy of the optic nerve and retina.

In eighteen of the cases herewith presented, both alcohol and tobacco were used in excess; in one case tobacco was used excessively, from ten to fifteen strong cigars daily for ten years, and alcohol moderately, only an occasional glass of gin being taken; and in one case, as before stated, the amblyopia seemed to be wholly due to the abuse of tobacco. In this case the vision rose from $\frac{5}{200}$ to $_{70}$ in each eye, the patient abstaining from tobacco, and being subjected to appropriate treatment.

In some of these cases we omitted to note the length of time during which the patient had been addicted to the habitual use of spirits and tobacco; but in most of the cases it was many years—in one case ten, in one case thirty-eight, and in one case forty years.

The time that had transpired since the patient first noticed impairment of vision varied from three weeks to over a year.

In nearly all the cases the impairment of sight had been *gradual*, although in one case it had been ushered in *suddenly* "after prolonged exposure of the eyes to glare on the water." In this case, however, the sight continued to deteriorate gradually after the first onset of the disease. In all the cases there was simultaneous decay of vision in both eyes. In nine cases, or in nearly *fifty per cent.*, the amount of impairment was exactly the same in both eyes. The greatest difference of vision in the two eyes of any one patient was where one eye had vision $\frac{20}{30}$ and the other $\frac{20}{100}$.

In several cases it may be doubted whether the impairment of vision was *wholly* due to alcohol- and tobacco-poisoning. Several of the patients had been subjects of malaria; one said that his sight began to fail during an attack of "bilious diarrhœa;" one had had syphilis, but there was no evidence of any syphilitic disease of his eyes, and on the other hand he was habitually saturated with spirits and tobacco, and recovered his vision when these were cut off, and he had been under treatment for a few weeks.

The patients were all men, their ages ranging from thirty to sixty. Two were physicians, two were gentlemen of leisure, one a sea-captain, one a lawyer, one a merchant, one clerk, one speculator, one auctioneer, one machinist, one equestrian, one mechanic, one watchman, one coachman, and one laborer.

About one-half the number were married and the other half bachelors.

In all of these cases, or nearly all, the treatment by hypodermic injections of strychnia was pursued, and generally with great apparent benefit. Our routine method of using the strychnia is this: We have put up, at a reliable apothecary's, four grains of nitrate of strychnia in an ounce of distilled water. Each minim of this solution contains one one-hundred-and-twentieth of a grain of nitrate of strychnia. We usually begin by injecting into the subcutaneous cellular tissue three minims of this solution, or one-fortieth of a grain of the drug. We then increase the amount injected by one minim daily, giving one injection a day until some of the physiological effects of the drug have been produced.

The most frequent of these we have found to be a kind of stiffening of the legs with a tendency to "kick out" in an irregular manner. We have usually kept the patient sitting for fifteen or twenty minutes after the injection, in order to observe the effect. Frequently the first symptom of any effect upon the system would be this uncontrollable tendency to step higher, or to one side, or in some direction not in accordance with the wishes of the patient while going down-stairs to go out. At the same time stiffness of the muscles of the thighs would be complained of, and sometimes slight spasmodic twitchings, or rigidity, of the muscles of the jaws or other muscles would be observed. The next most frequent symptom was vertigo, and sometimes headache. I remember that one man, who lived in Williamsburg, was attacked with a sudden dizziness, and fell down on the sidewalk when he had nearly reached his home. He soon recovered his self-control, however, and reached home without assistance. In a very few cases "little knotty pains" in the bowels were complained of, just such pains as I have heard some persons say they experienced from drinking lager beer.

I may say, however, that although we have been using nitrate of strychnia hypodermically for over eight years, and often in three or four different patients a day, we have never yet seen any alarming symptoms from its use, and we do not think there is much danger attendant upon its use in the way we have described. Cases have been reported, however, in which symptoms of decided strychnine-poisoning followed its use in amaurosis and amblyopia. But I have not heard of any *fatal* results.

One very disagreeable complication, however, arose in several cases, and that was a tendency to inflammation at the site of the puncture.

In one case a small abscess formed and persisted for several weeks in spite of such treatment as was employed. When this complication occurs a change in the treatment usually seems to be indicated.

We have commonly given our injections in the back of the neck, sometimes in the arm, and less frequently in the temple.

The question naturally arises, How long should we continue these hypodermic injections of strychnia? Our practice has been to continue them up to physiological effects, and then to stop them if no marked benefit has ensued. If the vision continues to improve after physiological effects have been reached, the injections may be continued for an indefinite period, that is, as long as they seem to be doing any good. The quantity injected should be diminished, however, so as just to fall short of physiological effects.

We have, in some cases, after reaching physiological effects, stopped the strychnia injections for a few weeks, and then resumed them again, going over the same ground as at first with decided benefit.

The largest dose of strychnia I have injected in any one case was, to the best of my recollection, one-fifth of a grain. I have seen one patient, however, who, under the care of a friend of mine, had the dose increased to one-half of a grain before physiological effects were produced. Usually physiological effects show themselves after you have increased the dose to from one-fifteenth to one-tenth of a grain.

You must not suppose, gentlemen, that in these cases of amblyopia from alcohol- and tobacco-poisoning we do nothing for the patient but treat him with hypodermic injections of strychnine. The first and most important thing of all in the treatment is *entire abstinence* from the poisons which caused the disease. We find it the best way to cut off the alcohol and tobacco *at once and completely*. The "tapering-off system" will not do here. If the patient be allowed to use either tobacco or alcohol at all, he will be almost sure to do so to the point of saturation or toxic effect. It is certainly much easier for a person accustomed to the immoderate use of tobacco and alcohol to drop them entirely than to limit their use short of satiety. And generally they are ready and willing to do so when the importance of such abstinence is fairly represented to them, and they are told to choose between the continuation of the indulgence and their eyesight. Such patients have frequently told me that they were themselves surprised at the facility with which they dropped the habit, their "hankering" having continued, to any unpleasant degree, for only a few days. I have known some of these patients to *relapse* into their habits of drinking and smoking, but strange to say, I do not recollect any patient who came to us for treatment a second time, having been once cured. Perhaps the amblyopia does not recur; perhaps such patients are ashamed to apply a second time to the same physician for treatment, being conscious of a sense of moral degradation in having neglected to follow his advice.

Besides stopping the use of tobacco and alcohol, and placing the patient upon injections of nitrate of strychnia, his hygienic circumstances should be carefully looked into, and his whole manner of living should be properly regulated. Of course other medicines besides strychnia are frequently indicated, and should be used.

Dr. Charles S. Bull, who published a paper in the *American Journal of Medical Sciences* for April, 1873, "On the Treatment of Various Forms of Amblyopia and Amaurosis," in which he reports twelve cases which he had treated with hypodermic injections of strychnine, gives the following as his conclusions in regard to the value of the strychnine treatment: "In all cases of functional amblyopia we may expect good and permanent results from strychnia; and even in some cases of organic origin, provided there be no extensive atrophy of the nerve-structures, some improvement is gained by the use of the drug."

Some of our colleagues say that they have no confidence whatever in the strychnine treatment, and do not resort to it at all, or, having tried it, and failed to get such good results as others have claimed, have abandoned it altogether.

Yet it seems to me that we may be reasonably sure that our patients of the class spoken of in this paper usually recover their vision more rapidly under the strychnine treatment than they would under any other. Look at Case V. of this series, for instance. On his first visit he had vision $\frac{14}{100}$ in each eye; one thirty-sixth of a grain of strychnia was injected, but reeking as he was with alcohol and tobacco, there was no immediate improvement. On his second visit, one week later, he, having abstained from tobacco and alcohol, had vision $\frac{20}{100}$ in right, and $\frac{20}{80}$ in left eye. A hypodermic of strych. nitrat. gr. $\frac{1}{30}$ was then given, and vision rose in *one minute* to $\frac{20}{60}$. *Five* minutes later, vision was $\frac{20}{40}$, the vision thus having *doubled* itself in one eye and *more than doubled* itself in the other within six minutes from the time of the injection.

Also look at the case of Mr. McK—— (Case VII.). He came to us with vision $\frac{5}{100}$ in each eye. We gave him a hypodermic of strych. nitrat. gr. $\frac{1}{24}$, and a few minutes later his vision rose to $\frac{20}{80}$ each eye, the sight being more than quadrupled in each eye before leaving his seat.

These cases would seem to demonstrate beyond a doubt that strychnia, used hypodermically, has a certain specific influence upon the visual apparatus. Dr. Bull, in the paper above cited, says, concerning the influence of strychnia upon the sense of sight, "the only point that we are sure of is that it produces a distinct irritation or excitement of the nervous portion of the visual apparatus."

There can be no doubt that most patients who are the victims of alcohol- and tobacco-poisoning would recover a certain amount of vision by simple abstinence from tobacco and spirits. Cases IX., X., XII., and XVI. bear out this assertion. Each of these patients abstained for one week without treatment. The vision of Case IX. went up from $\frac{20}{200}$ to $\frac{20}{70}$ each eye; the vision of Case X. rose from $\frac{15}{200}$ to $\frac{20}{100}$ each eye; the vision of Case XII. rose from $\frac{5}{200}$ each eye to $\frac{5}{100}$ right, and $\frac{5}{126}$ left; and the vision of Case XVI. rose in right eye from $\frac{20}{100}$ to $\frac{20}{80}$, and in left eye from $\frac{20}{80}$ to $\frac{20}{60}$.

Of the twenty cases here reported the vision was improved, while under treatment, in all the cases except *two*, in which it remained unchanged. In seven cases, or in about thirty-four per cent., the vision rose from various degrees of impairment to the normal standard, in one case going up from counting fingers at twelve and fifteen feet to $\frac{20}{20}$ each eye.

If I were to formulate my conclusions drawn from these cases and from other sources of information, they would be about as follows:

1. Amblyopia from poisoning by alcohol alone, or by alcohol and tobacco combined, is not uncommon.
2. Amblyopia from poisoning by tobacco alone *does occur*, but, in this country, somewhat rarely.
3. Cases of amblyopia from abuse of tobacco and alcohol will usually improve, perhaps to a limited extent, on simple abstinence from the poisons causing the disease.
4. They will improve much more rapidly under treatment by hypodermic injections of strychnia, this drug having a specific stimulating influence upon the nervous portion of the visual apparatus.

My thanks are due to Dr. C. R. Agnew for his permission to make use of the cases drawn from his case-books.

CASE I.—Dr. G——, aged thirty-two years; American, married; came under observation in January, 1873. His vision had been acute until the previous June, when it began to grow dim, without pain or other symptom, "just as a twilight sets in." The failure of sight gradually increased until now. Right eye, V. = fingers at fifteen feet, and left eye, V. = fingers at twelve feet. He chews and smokes tobacco freely, and takes two or three drinks of whiskey daily, occasionally more.

Ophthalmoscopic examination, through dilated pupils, reveals "a dirty-looking macular region and whitish optic disk" in both eyes.

January 28th.—The patient was put upon hypodermic injections of nitrate of strychnia, commencing with gr. $\frac{1}{4}$, and increasing to gr. $\frac{1}{24}$. The strychnia was then stopped for a few days, and the patient put upon iodide of potassium and bromide of ammonium.

February 10th.—Urine examined by Dr. Edward Curtis, and pronounced normal.

February 12th.—Patient examined by Dr. E. C. Seguin, who finds no evidence of intracranial or spinal disease.

The strychnine injections were then renewed, and carried from gr. $\frac{1}{24}$ up to gr. $\frac{1}{10}$, when the patient returned to his home, with only slight improvement of vision.

June 11, 1875.—Vision $\frac{20}{20}$ in each eye. Used no medicine but cod-liver oil after leaving New York, and took that only two months. He attributes his recovery of vision more to total abstinence from whiskey and tobacco than to any medication. His recovery was very slow, and he could see sufficiently well to shoot last fall for the first.

October 4, 1878.—He has had no further trouble with his eyes. Vision remains $\frac{20}{20}$.

Case II.—A. C. R——, aged fifty-four years; American, bachelor; officer in U. S. Navy; came under observation June 16, 1875. First noticed sight was beginning to fail about two months ago, while in Savannah, during an attack of "bilious diarrhœa," which "laid him up" for three weeks. Had chills and fever when a boy. Has never been subject to headache; never had venereal disease. No albumen in urine.

Has used tobacco since sixteen years of age, and has smoked excessively this winter. Has used wine and spirits habitually all his life, never to excess; "only five or six glasses of whiskey a day."

The patient is very thin. He says he never had much flesh, but lost much of what he had during his illness in Savannah.

R. V., $\frac{20}{70}$; L. V., $\frac{20}{40}$. No improvement with glasses.

Ophthalmoscopic examination: "Apparently has incipient atrophy of both optic nerves." Advised to stop the use of tobacco and spirits, and injected strychniæ nitrat., gr. $\frac{1}{24}$.

June 17th.—Injected strych. gr. $\frac{1}{20}$.

June 22d.—Has smoked only three cigars daily, and has drank no spirits. Vision remains the same. Injected strych., gr. $\frac{1}{17}$.

July 6th.—R. V., $\frac{20}{40}$; L. V., $\frac{20}{20}$. Has had a daily injection of strych. nitrat., the dose to-day being gr. $\frac{1}{8}$.

July 15th.—Vision remains the same as when last tested. Injected to-day strych. nitrat., gr. $\frac{1}{8}$, which produced some "stiffening of his legs." Sent into the country.

September 2d.—Has been at Richfield, N. Y., for three weeks, during which he gained 3¾ lbs. in weight. While at Richfield he drank three large glasses of mixed milk and cream daily. He went thence to Saratoga, where he stayed three weeks, but gained no flesh while there. Vision, $\frac{20}{20}$ each eye; visual fields normal.

April 20, 1879.—Captain R. states that he has had no further trouble with his eyes.

Case III.—Thos. McS——, aged thirty-one years; Irish, married; coachman; came under observation January 8, 1874. A year ago had some redness of his eyes during the snowy weather. Never had pain in his eyes or head; never had syphilis nor malarial disease. Noticed sight getting bad for the last five weeks.

Smokes a pipe most of the time when not driving, and drinks freely of ale, and occasionally of whiskey.

Vision $\frac{15}{200}$ each eye; no improvement with glasses.

Ophthalmoscopic examination: Dirty, congested look of fundus and nasal half of disk; temporal half of disk too white. Injected strych. nit., gr. $\frac{1}{24}$. No immediate improvement of vision.

January 15th.—Has abstained from tobacco and spirits for a week, and vision remains the same. Injected strych. nit., gr. $\frac{1}{24}$, and before he left his seat vision rose to $\frac{20}{200}$ in each eye.

Mr. McS—— was then sent to the Manhattan Eye and Ear Hospital, and placed upon daily increasing injections of nitrate of strychnia. These injections were continued for some days after the physiological effects of the drug had been reached. The patient states that his sight became much better while under treatment, but no note was made of the amount of improvement.

February 10, 1879.—Vision $\frac{20}{20}$ each eye. The patient states that he smokes and drinks only occasionally.

Case IV.—Doctor F——, aged fifty-four years; married, Irish; has noticed that his sight was failing for several months. Now, September 4, 1876, R. V., $\frac{20}{100}$; L. V., $\frac{20}{70}$. No improvement with glasses. He has for many years been addicted to an excessive use of tobacco and spirits.

Ophthalmoscopic examination: "Incipient atrophy of both optic nerves." Advised to quit the use tobacco and spirits, and to place himself upon the use of nitrate of strychnia.

February 24, 1879.—Dr. F——, states that immediately after consulting me, his son, also a physician, began to inject him with nitrate of strychnia, commencing with a small dose and increasing a little daily, until physiological effects were produced. He then began taking it in increasing doses by the stomach. He increased the dose up to gr. $\frac{1}{8}$ daily, and this having affected his muscular system slightly, he stopped the drug. He has been taking it from time to time ever since, and has abstained from the use of tobacco and alcohol. His vision gradually improved from the first. Now, V. $\frac{20}{20}$ each eye; visual fields normal.

Case V.—G. B. W——, aged thirty-seven years; married, clerk; came under observation October 23, 1873. Blurring of sight came on suddenly after prolonged exposure to glare on the water three or four months ago, and has since gradually increased. For several years has smoked on an average fifteen strong cigars daily, and has drank on an average eight or ten glasses of brandy a day. Had what his physician called a chancre fifteen years ago, but it was never followed by any of the constitutional symptoms of syphilis.

Vision $\frac{14}{100}$ each eye; no improvement with glasses. No color scotoma, nor limitation of visual fields.

Ophthalmoscopic examination: "A dirty, ill-defined appearance of the optic nerve and retina." Injected strych. nit., gr. $\frac{1}{36}$. No immediate improvement of vision.

October 30th.—Has abstained from tobacco and alcohol for one week without treatment. R. V., $\frac{20}{100}$; L. V., $\frac{20}{80}$. Injected strych., gr. $\frac{1}{30}$, and one minute later V. $\frac{20}{50}$ both eyes. Five minutes later V. $\frac{20}{40}$ both eyes.

November 6th.—The injection has been daily increased, and the dose has reached gr. $\frac{1}{14}$. Vision $\frac{20}{30}$ both eyes.

November 7th.—Injected strych., gr. $\frac{1}{12}$, which produced such decided effects that the patient had to lie down for an hour before he had sufficient control of his limbs to leave the office.

November 17th.—Has had strych., gr. $\frac{1}{24}$, injected daily since last note. Vision $\frac{20}{20}$ each eye.

Case VI.—A. L——, aged fifty-eight years; American, married; speculator; said that his sight had been failing for the last nine months. He had for many years smoked, chewed, and drank to excess.

Ophthalmoscopic examination: "Disks dirty, atrophic excavation, retinal veins enlarged and pulsating."

R. V., $\frac{20}{80}$; L. V., $\frac{20}{100}$; no improvement with glasses. Placed upon daily injections of nitrate of strychnia. After three injections, gr. $\frac{1}{24}$, gr. $\frac{1}{20}$, and gr. $\frac{1}{18}$, vision rose to $\frac{20}{50}$ both eyes. After five more injections, R. V., $\frac{20}{40}$; L. V., $\frac{20}{50}$; and after three more, R. V., $\frac{20}{30}$; L. V., $\frac{20}{50}$. This patient was under treatment fourteen days, and received eleven injections, six of which were of gr. $\frac{1}{12}$ each. No physiological effects were produced.

Case VII.—Colin McK——, aged forty-nine years; machinist and engineer; could see well with spectacles up to three months ago, since which vision has gradually but rapidly failed. Has smoked from ten to fifteen strong cigars daily for ten years; occasionally drinks a glass or two of gin; drinks coffee four times a day. Vision, $\frac{6}{100}$ each eye; improved by $+\frac{1}{18}$, but not to $\frac{20}{200}$.

Ophthalmoscopic examination: "Incipient atrophy of optic nerves."

Strych. nitrat. gr. $\frac{1}{24}$ was injected into the back of the neck, and within five minutes vision rose to $\frac{20}{80}$ each eye.

He returned to his family physician with a letter, and we have not heard from him since.

Case VIII.—C. S. P——, aged forty-six years; auctioneer; saw well with glasses up to five weeks ago; read the newspapers up to nineteen days ago. Never had syphilis nor malaria. General health good.

Previous to the commencement of his failure of sight he was constantly under the influence of alcohol and tobacco, and still has his pipe in his mouth at least half the time.

Ophthalmoscopic examination: "Incipient atrophy of optic nerves." R. V., $\frac{20}{100}$; no improvement with glasses. L. V., $\frac{20}{30}$, with $+\frac{1}{48}$. Central scotoma of both eyes, but no color-blindness.

This patient was treated with strychnia injections from April 17th to May 10th, when he was discharged with vision unchanged, and has not been heard from since.

Case IX.—R. E——, aged forty-six years; complains of gradual impairment of sight. Drinks and smokes excessively. V. $\frac{20}{200}$ each; no improvement with glasses.

Ophthalmoscopic examination: "Optic disks of a dirty, brick-dust color."

Advised to abstain from tobacco and spirits and return in a week.

March 2d.—V. $\frac{20}{70}$ each eye, after a week's abstinence.

March 13th.—He has had five injections of strych. nitrat., the last being gr. $\frac{1}{15}$. V. $\frac{20}{50}$ each eye.

March 19th.—R. V., $\frac{20}{50}$; L. V., $\frac{20}{40}$.

Case X.—G. B——, aged fifty years; has long been addicted to the excessive use of tobacco and alcohol. Vision has been declining for several months, and is now $\frac{15}{200}$ each eye.

Ophthalmoscopic examination: "Incipient atrophy of optic nerves."

January 15th.—Has abstained from alcohol and tobacco one week without treatment. V. $\frac{20}{100}$ each eye.

January 25th.—Has had eight injections of strych. nitrat., the last dose being gr. $\frac{1}{12}$. R. V., $\frac{20}{50}$; L. V., $\frac{20}{30}$.

Case XI.—E. L——, aged fifty-five years; lawyer; came under observation June 16, 1875. Has smoked four or five cigars a day, and drank brandy and water in the evening for many years. Has had increasing mistiness of vision for three or four weeks. Puffiness of lower lids for years. Urine normal. Never had syphilis nor malaria. Never has headache nor pain in the eyes. Latterly he has "lost stomach." R. V., $\frac{20}{40}$; L. V., $\frac{20}{30}$; picking out the letters slowly. Reads J. 4 with glasses with difficulty.

Ophthalmoscopic examination: "Dirty disks."

June 22d.—Has smoked only one cigar a day, and drank no spirits, and has drank milk freely. Vision unchanged.

July 6th.—The dose of strych. nitrat. has been increased from gr. $\frac{1}{40}$ to gr. $\frac{1}{8}$. R. V., $\frac{20}{40}$; L. V., $\frac{20}{20}$.

July 15th.—The dose has been increased to gr. $\frac{1}{5}$. Slight physiological effects on arms and legs.

August 23d.—R. V., $\frac{20}{30}$; L. V., $\frac{20}{20}$. Can now see the lineaments of faces across the street, while before he could see only the dark outline. He had twenty-two injections in all.

Case XII.—J. A——, aged sixty years; Scotchman, married; mechanic; came under observation January 17, 1878. Has had failing eyesight for over a year. Has smoked a strong pipe most of his waking hours for more than forty years. Has rarely tasted liquor. No headache. Never had syphilis nor malaria. Urine normal. V. $\frac{5}{200}$ each eye.

Ophthalmoscopic examination: "Brick-dust atrophy of both optic nerves." Ordered to stop tobacco and return in a week.

January 24th.—R. V., $\frac{5}{100}$; L. V., $\frac{5}{120}$. Put upon strych. sulph. gr. $\frac{1}{60}$ thrice daily, by the mouth.

April 4th.—V. $\frac{20}{100}$ each eye. Put upon a mixture containing bromide of ammonium, iodide of potassium, sesquicarbonate of ammonia, and tincture of columbo.

July 23d.—V. $\frac{20}{70}$ each eye.

Case XIII.—M. C——, aged forty-eight years; laborer, married; came under observation January 2, 1879. Patient is partly deaf, and belongs to a family nearly all of whom are hard of hearing. Had malaria when fourteen years old. Never had venereal disease. Five months ago went to Coney Island, where he thinks the glare of the sun on the water injured his eyes, for the sight has since gradually failed.

Chews tobacco all the time. Smoked and drank excessively up to two weeks ago, when his physician ordered him to stop it.

R. V., $\frac{10}{200}$; L. V., $\frac{2}{200}$.; no improvement with glasses.

Ophthalmoscopic examination: "Incipient atrophy of optic nerves."

January 8th.—The dose of hypodermic strychnine has been carried up to gr. $\frac{1}{11}$.

R. V., $\frac{20}{200}$; L. V., $\frac{6}{200}$.

Case XIV.—T. W——, aged forty-one years; came under observation January 17, 1878. Stomach out of order. Is very nervous. Drinks, smokes, and chews freely. For years smoked ten or twelve cigar a day. Now averages five or six. Urine normal.

R. V., [illegible], with $+\frac{1}{24}$; L. V., $\frac{20}{80}$, with $+\frac{1}{30}$ c. ax. 90° ⌒ $-\frac{1}{60}$ c. ax. 180°.

Ophthalmoscopic examination: "Disks too pale; white bands by the sides of some of the retinal vessels."

January 30th.—The strychnia injections have been carried up to gr. $\frac{1}{4}$, which produces some stiffness of the thighs. R. V., $\frac{20}{70}$, Hm. $\frac{1}{16}$.; L. V., $\frac{20}{60}$, with + [illegible] c. ax. 90° ⌒ $-\frac{1}{30}$ c. ax. 180°.

Case XV.—J. M——, aged forty-two years; equestrian; married; came under observation September 24, 1877. Blurring of eyesight has been going on for over three months. Contracted "dumb ague" in Georgia some years ago.

Smokes seven or eight cigars daily, and drinks a great deal of whiskey.

Vision $\frac{20}{70}$ in each eye, and no improvement with glasses.

Ophthalmoscopic examination: "Incipient atrophy of optic nerves."

Ordered to quit tobacco and whiskey, and put upon dialyzed iron, with strych. sulph., gr. $\frac{1}{60}$, *ter in die.*

September 28th.—V. $\frac{20}{40}$ each. Appetite much improved.

October 8th.—Has had nine hypodermic injections of strych. nitrat., commencing with gr. $\frac{1}{40}$ and increasing to gr. $\frac{1}{14}$. V. $\frac{20}{30}$ each.

October 9th.—Injected strych., gr. $\frac{1}{10}$. Patient soon after became dizzy, and vision rose to $\frac{20}{20}$ each eye.

Case XVI.—G. M——, aged fifty-one years; married; merchant; came under observation July 10, 1876. At the age of seventeen he had scarlatina severely, which impaired his memory for a year. He had "camp fever" during the war, and chills and fever nine years ago. Never had syphilis.

Has for many years smoked three or four cigars a day, and has always drank more or less brandy or wine daily, but "never to excess."

Has had gradual impairment of vision for nine months, as though a vail were drawn over objects. Has for some time been under the care of a physician for his eyes, and has been taking the bromides without appreciable benefit.

R. V. $\frac{20}{100}$; no improvement with glasses; L. V. $\frac{20}{80}$, with $+\frac{1}{72}$.

Ophthalmoscopic examination: "A low grade of optic neuritis, with commencing atrophy of both optic nerves."

Advised to stop tobacco and spirits for a week and take no medicine.

July 17th.—Has practised abstinence for a week, as directed. R. V., $\frac{20}{80}$; L. V., $\frac{20}{60}$. Injected strych. nitrat., gr. $\frac{1}{24}$.

July 24th.—The dose of strych. nitrat. has been gradually increased to gr. $\frac{1}{10}$. Has had pain in forehead for three or four days. Vision $\frac{20}{50}$ each eye.

July 27th.—Strych. nitrat., gr. $\frac{1}{9}$, produces "leg symptoms."

August 11th.—Vision $\frac{20}{40}$ each eye.

August 22d.—Vision $\frac{20}{30}$ each eye. Is taking a daily injection of strych. nitrat., gr. $\frac{1}{5}$.

September 25th.—Vision $\frac{20}{20}$ each eye, with $+\frac{1}{72}$.

Case XVII.—J. M——, aged thirty-eight years; watchman; bachelor; came under observation March 28, 1879.

In the beginning of the winter got a pair of shoes that were a size too small for him, and he thinks wearing them affected his eyes. Three or four weeks after he commenced to wear them he first noticed, while reading a newspaper, that his sight was failing, and it has gradually grown worse ever since.

He has smoked both pipe and cigars since he was fifteen years old. Smokes at least half a paper of tobacco daily, and drinks a glass of ale every day, and often whiskey. Had chills and fever five years ago. Not subject to headache. Never had venereal disease, but has been addicted to masturbation since the age of seventeen.

Urine and heart examined by experts, and found to be normal.

Vision $\frac{40}{70}$ each eye, and no improvement with glasses. Visual fields not contracted. Tension normal in both eyes.

Ophthalmoscopic examination: "The nasal half of each optic disk is too red, the temporal half too pale. There is visible pulsation of both the retinal veins and arteries, extending to a comparatively long distance from the disks, and in some of the larger branches it can be traced as far as the equator of the globe. In the veins the pulsation is of the usual character, except in its intensity, and the extraordinary distance to which it can be traced from the disks. The arteries, however, seem to start up, and move as a whole with each impulse of the heart, without apparent change of calibre. As the arteries start forward, the veins contract; and as the veins fill out again, the arteries recede to their former position."

This patient was exhibited to the New York Ophthalmological Society, the pulsation of the retinal arteries, without glaucoma, or embolism, or organic disease of the heart, being considered almost unique.

He was injected with nitrate of strychnia at irregular intervals, until the 27th of April, the largest dose being gr. $\frac{1}{12}$. He was discharged with vision $\frac{20}{30}$ each eye.

Case XVIII.—W. C. P——, aged thirty-two years; came under observation February 6, 1877. Eyes began to blur on reading about eight months ago. At that time he could see well in the distance, but now he has difficulty in reading a sign across the street. Has long been in the habit of drinking and smoking without restraint.

R. V., $\frac{20}{30}$; L. V., $\frac{20}{80}$; no improvement with glasses. Eyes blur at times so that he cannot see $\frac{20}{200}$, and then suddenly clear up again. Urine normal.

Ophthalmoscopic examination: "Optic disks too pale, especially the left."

Stopped tobacco and spirits, and commenced the use of strych. nitrat. by injections.

February 9th.—R. V., $\frac{20}{20}$; L. V., $\frac{20}{40}$.

February 22d.—Is up to strych. gr. $\frac{1}{11}$. R. V., $\frac{20}{20}$; L. V., $\frac{20}{30}$.

March 1st.—Strych. nitrat., gr. $\frac{1}{8}$, produced slight dizziness.

March 2d.—Patient comes from a champagne supper, at which he drank wine and smoked nearly all night. He was ordered a Turkish bath, but did not report again.

Case XIX.—J. B——, aged thirty years; American, gentleman of leisure, married; complains (May 8, 1879) that he has been getting near-sighted. Drinks five or six times a day, and smokes at least four or five cigars daily. Guns and fishes much. Studies natural history and reads at night. Had rheumatic gout at nineteen or twenty. Six or seven years ago had chills and fever, and has since had occasional neuralgia of head and down back. Never had venereal disease. Urine normal. V. $\frac{5}{100}$ each eye. With $-\frac{1}{12}$, V. $\frac{10}{100}$ each eye. Visual fields normal.

Opthalmoscopic examination: "A soiled or dirty look of the optic disk and fundus."

To desist from tobacco and spirits, and to drink two quarts of milk daily.

May 26th.—The hypodermic injections of strych. nitrat. have been carried up to gr. $\frac{1}{8}$, and "stiffening of the jaws" has been produced.

R. $\frac{20}{200}$; L. $\frac{5}{200}$.

May 28th.—Vision $\frac{20}{200}$ each eye. Em.

June 20th.—Vision remains $\frac{20}{200}$ each eye.

Case XX.—D. A——, aged thirty-two years; bachelor; American, gentleman of leisure; has lived a very dissipated life from early youth, indulging freely in tobacco, spirits, and venery. Has had syphilis, and has several times been in a state of great nervous prostration from alcoholism.

Never had any trouble with eyes until about three weeks ago, when, having steered a boat twenty-two miles against a head-wind, the next morning his eyes were red and watery. They soon recovered from that attack, but four days ago a blur came over the sight of both, and is daily increasing. No pain in eyes, no headache. Had malarial disease thirteen years ago.

Smokes from ten to fifteen cigars daily, and is constantly in state of semi-intoxication.

R. V., $\frac{20}{80}$; L. V., $\frac{20}{126}$; no improvement with glasses. Reads J. 11 with both eyes at once.

Ophthalmoscopic examination: "Optic disks too pale."

Advised to quit tobacco and spirits, to drink freely of milk, to rub himself briskly from neck to heel with hair mittens and strap every morning, following the friction with a sponge-bath, and to take potas. bromid., gr. xx., every night on going to bed.

June 6th (two days later).—Vision unchanged. Had a night-sweat last night. Ordered quin. sulph., gr. ij., *ter in die.*

June 7th.—R. V., $\frac{20}{100}$; L. V., $\frac{20}{64}$.

June 13th.—Has taken Marburg's tincture, ʒ j., every four hours, and quin. sulph., gr. ij., every two hours, since four days ago, when his temperature rose to 103$\frac{3}{4}$.

June 16th.—Has had, besides the treatment mentioned, two injections of strych. nitrat., gr. $\frac{1}{24}$ each. R. V., $\frac{20}{40}$; L. V., $\frac{20}{64}$.

June 25th.—Has had daily increasing hypodermics of strych. R. V., $\frac{20}{40}$; L. V., $\frac{20}{50}$.

July 14th.—Took injections of strych. up to a week ago, when he had an acute development of tertiary syphilis, manifested by acute nodes on right tibia, and acute arthritis of right ankle-joint. Was put upon hydrarg. biniodid., gr. $\frac{1}{16}$, and sodii iodid., ʒ ss., *ter in die.* On the second day ran the iodide of sodium up to gr. xl., and continued at that dose for three days, and then dropped to one scruple three times daily.

Six days ago had a severe chill lasting three-quarters of an hour, followed by fever and profuse sweating, with headache. Gave quin. sulph., ℈j., between meals. Is now taking brandy, ʒ j., in each dose of Marburg's tincture.

R. V., $\frac{20}{20}$; L. V., $\frac{20}{32}$.

◆

Dr. Gresham, of Louisville, is (says the *Medical and Surgical Reporter*) ninety-seven years of age, and has just started for the mountains on his "last hunt." He is the only living fort-born native of Kentucky. When he came into the world his parents were dodging arrows and tomahawks, and his youth was spent with the rifle in his hand. He says he cannot die in peace until he shall once more have eaten venison of his own killing and cooking.

REPORT OF
A SUCCESSFUL CASE OF PARACENTESIS OF THE PERICARDIUM.

By JOHN B. ROBERTS, M.D.,

LECTURER ON ANATOMY AND ON OPERATIVE SURGERY IN THE PHILADELPHIA SCHOOL OF ANATOMY.

The notes of the following case of successful pericardial tapping have been furnished me by the operator, Dr. R. L. Payne, of North Carolina, and his son, R. Lee Payne, Jr. As my researches previously published have enabled me to find but twelve instances of paracentesis of the pericardium done in America, I feel it important to record this previously unreported instance of an operation easily performed, and not infrequently demanded, but usually considered as one requiring complicated apparatus for its accomplishment.

On July 1, 1880, E. P——, a colored man, about fifty years of age, consulted Dr. Payne and his son for dropsy. He had been treated ten years previously for a dropsical condition, but from this he recovered. In the spring of this year he had had a return of his trouble and now came for treatment. Examination showed the following conditions: Great œdema of the lower limbs, and considerable effusion in the subcutaneous cellular tissue, except upon the face. There seemed to be no ascites. He stated that he had had great difficulty in breathing, and that for two months he had not been able to lie down, but sat constantly in the open air. His respiration was so labored that it could be heard at a distance of a hundred yards. Physical examination of the chest revealed, by the usual diagnostic signs, a large accumulation of fluid in the right pleural cavity. No fluid was present in the left side of the chest, but some moist râles were heard in the left and at the apex of the right lung. The patient was expectorating some blood. The cardiac area of dulness was increased considerably, and the sounds were so muffled that it was almost impossible to distinguish them.

The diagnosis made was dropsy of the right pleura, and chronic pericarditis with effusion. The anasarca and hæmoptysis were considered as resulting from the heart-lesion.

He was placed on the fluid extract of jaborandi and the infusion of digitalis. At the end of a week there was no improvement, the suffering from dyspnœa was extreme, and death seemed imminent. As a last resort it was determined to aspirate the pericardium with the hypodermic syringe. The needle was introduced in the intercostal space between the fourth and fifth ribs, and previous to complete penetration of the intercostal muscles the syringe was exhausted of air. The needle was then pushed slowly and carefully on till it entered the pericardial sac, when the syringe was at once filled with a straw-colored fluid. The syringe was detached from the needle and emptied, and again applied and refilled with fluid. This was repeated until nearly an ounce of serum was withdrawn. That the needle entered the pericardium was considered certain, since it was seen that at every pulsation of the heart the needle made synchronous movements.

Great relief to the more urgent symptoms followed the operation, and the patient was able to lie a little lower than the half-recumbent position, which he had not been able to do for weeks. The dyspnœa was much relieved. Three days later the right chest was aspirated, a quart or more of fluid withdrawn, and the man thus enabled to lie flat in bed, breathe with ease, and sleep quietly. At the end of a week he was so improved that he was allowed to return to his home sixteen miles in the country. He was ordered infusion of digitalis with acetate of potassium three times daily. The patient was seen no more after this, but two weeks later he was reported as doing well, and was ordered to continue the same line of treatment. Four weeks later he died; but, as he resided some distance from Dr. Payne, the latter did not know of his death until a considerable period had elapsed, and then was unable to obtain accurate information concerning the immediate cause of the fatal result. Hence, no autopsy was obtained.

This interesting history illustrates what has so often been demonstrated, that the pericardium can be tapped with ease and certainty, and great relief given by the withdrawal of a comparatively small quantity of fluid. The use of the hypodermic syringe, which is practically a small aspirating pump, shows that no elaborate preparation or apparatus is required for the operation, which can be performed at any time with the ordinary appliances carried by every doctor. This instrument has been satisfactorily used in a similar manner by Dr. Porcher, of Charleston, S. C., and Dr. Paul, of Philadelphia. The case should be considered a recovery after paracentesis, for the symptoms were alleviated and the patient discharged from personal supervision.

Ordinarily, in cases of coexisting pleural and pericardial effusion, I would prefer to aspirate the pleura first, especially if there was a large quantity of fluid in that cavity.

This instance makes the thirteenth operation for paracentesis of the pericardium that has been performed in America, as far as I have been able to learn after diligent search for a number of years. Of the thirteen patients operated on, six have recovered and seven have died. The names of the operators, as taken from my paper read before the American Medical Association, and from my recently published monograph, are as follows: Warren, Norris, Lyon, Welch, Smith, Pepper, Douglas, Porcher, Paul, Staples, Porcher, Abbott, Payne. The operation, it will be seen, has been performed by Porcher twice.

It is to be hoped that others will follow the example of Dr. Payne, and not allow a patient to die from pericardial effusion because no aspirator is obtainable. The hypodermic syringe has almost superseded the exploring-needle as an instrument for diagnostic purposes, and, as is here seen, acts well in all cases where fluids are to be evacuated. I, myself, never think of using the old-fashioned grooved exploring-needle, but always prefer utilizing the greatly superior suction action of the hypodermic syringe, and have frequently employed the latter instrument in emptying small collections of fluid, such as are found in cysts and abscesses. In the case of suspected aneurism, the withdrawal of a few minims of blood with the hypodermic syringe will establish a certain diagnosis and enable the surgeon to act intelligently in the premises. It was first used in pericardial effusion, I believe, by Dr. F. P. Porcher.

A Bequest to Harvard College.—Edward M. Barringer, who died recently at Zurich, Switzerland, has bequeathed a large part of his estate to Harvard Medical College. The proceeds from the invested fund are to be devoted to the establishment of two scholarships, whose annual amount shall be not less for each than $200 or $300.

THE TREATMENT OF RECENT LACERATIONS OF THE CERVIX UTERI.

By G. H. BALLERAY, M.D.,

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That laceration of the cervix uteri during labor is of common occurrence is proved by the frequency with which this lesion is met with in gynecological practice. Chronic laceration of the cervix uteri can only be cured by Emmet's operation, or "hystero-trachelorrhaphy," as Dr. Mundé calls it; but the object of this paper is to call attention to the efficacy of vaginal injections of warm water in the treatment of recent lacerations.

If the accident is not attended by profuse hemorrhage, and that in my opinion is the rule, it calls for no treatment for the first twenty-four hours; after that, the vagina should be syringed out thrice daily with warm water. After the third day a warm one per cent. solution of carbolic acid may be substituted for the plain warm water, especially if the lochia are in the least offensive. Under this treatment, *if the patient is kept quiet in bed*, a laceration of the cervix will heal in from ten days to two weeks. It is of the utmost importance that a diagnosis should be made in every case of laceration of the cervix uteri before the woman leaves her bed, for if this be done a cure can always, or at least generally, be effected by the simple means to which I have just referred. My own opinion is that spontaneous healing of lacerations of the cervix is the rule. I believe that there is more or less laceration of the cervix in every delivery at full term occurring in primiparæ, but the vast majority of these lacerations heal of themselves, if the patient does not leave her bed until the tenth day. If the woman gets up on the fourth, fifth, or sixth day, as commonly occurs among the poorer classes, the uterus being large and heavy, sags down in the pelvis, and traction is exerted by the vaginal walls upon the lips of the cervix, which are thereby everted and subjected to constant friction against the vaginal walls by every movement of the woman. By this constant irritation the mucous membrane of the cervix becomes eroded, the circulation through the uterus becomes interfered with, and chronic engorgement and subinvolution are the result.

Together with these morbid conditions, more or less displacement generally coexists, and in my experience anteversion or anteflexion is the most common form. In order to prevent this train of evils, it is necessary to recognize early the initial lesion. Therefore, in my opinion, it should be a *rule*, in private practice as well as in all lying-in hospitals, not to allow a patient to leave her bed until *after the ninth day*, and that in *every case* the cervix uteri should be carefully examined with Sims' speculum before the woman is allowed to assume the upright position. If an unhealed laceration is found to exist, she should be kept in bed for a week or ten days longer, during which time vaginal injections of plain warm water, or a weak, warm solution of carbolic acid should be used thrice daily. I append a brief report of three bad cases, which will serve to illustrate the beneficial effects of vaginal injections of warm water in recent lacerations of the cervix uteri.

Case I.—In February, 1876, I was called into the country to deliver a woman that a medical gentleman had been endeavoring for several hours to deliver with forceps. I found everything covered with blood —floor, bedding, instruments, and doctor. I found the head still at the superior strait, but the caput succedaneum was pressing on the perineum. The cervix uteri was badly torn in four places, and there was laceration of the posterior wall of the vagina. The woman's pulse was 130, and feeble, and her countenance anxious and haggard; she was a primipara and had been in labor thirty-six hours. Chloroform was administered, and I applied Elliott's forceps and brought the head through the superior strait. I was proceeding with great caution, and there was as yet no great distention of the parts, when the swollen portion of the scalp suddenly made its appearance through a central rupture of the perineum, at a point corresponding to the laceration of the vagina. I thought that I might still be able to bring the head through the vulva, but in that I was foiled; and the perineum was torn from the vulva to the anus. Profuse hemorrhage from inertia followed, and the most energetic treatment was required to save the patient's life.* After the uterus had been made to contract firmly, the hemorrhage ceased, and after reaction had been established by stimulants I left the patient. Two days later I again saw the patient, and finding her general condition fair, I sewed up the laceration of the perineum in the hope that union *might* result; but I must confess that I had no *great expectations* of success. The result was perfect union. Vaginal injections of warm water were used twice daily from the second day after delivery until the twelfth. Three weeks after delivery I had an opportunity to examine this patient, and I found the lacerations of the cervix perfectly healed.

Case II.—Mrs. W——, aged twenty-nine years, was delivered with forceps, by an irregular practitioner, of her second child, in June, 1879. The perineum was torn through the sphincter ani, and the laceration extended about two inches up the rectum. Two days later she was seen by another medical man, who called my colleagues, Drs. Marsh and Blunden, in consultation, and by their advice she was admitted into St. Joseph's Hospital, under my care. The patient's general condition was bad, and as the edges of the laceration and the lochial discharge presented an unhealthy appearance, I decided not to sew up the perineum, as in my judgment it would have been useless. The patient's strength was supported by tonics and nourishing food, and vaginal injections of warm water were used every four hours for the first three days, then every six hours. After the third day a weak carbolic acid solution was substituted. A week after her admission I examined the uterus with Sims' speculum, being careful not to exert much traction on the bowel, and found a deep stellate laceration of the cervix. The vaginal injections were continued twice daily, and at the end of three weeks after delivery the laceration had perfectly healed. Five weeks later I operated on the perineum with a successful result.

Case III.—Mrs. W——, aged twenty-eight years, was delivered of her first child in January, 1879. Her labor was long and tedious, the membranes having ruptured prematurely. Her medical attendant, a very intelligent and skilful practitioner, finding that the tissues of the cervix and the vagina and vulva had rather suddenly and unexpectedly become œdematous, and that her pulse was becoming frequent, applied the long forceps and delivered her. Notwithstanding great care in the delivery the cervix uteri was badly torn, and the perineum was lacerated through the sphincter ani. The greater part of the laceration of the cervix in this case was caused merely by the introduction of the blades of the forceps; in fact, the doctor informed me that in passing his finger between the cervix and the child's head, in making an examination, after œdema of the parts occurred, that the cervix tore like a piece of wet paper. Vaginal injections of slightly carbolized warm water were commenced within twenty-four hours after delivery. I saw the patient with her medical attendant nine days after delivery, and found that the cervix had been deeply torn in four different directions; the parts, however, had a healthy appearance, and it was evident that the lacerations were healing. The vaginal injections were continued for ten days longer, at the end of which time the lacerations in the cervix had healed. The perineum was subsequently operated on with success.

Reports of Hospitals.

PENNSYLVANIA HOSPITAL, PHILADELPHIA.

Clinic of J. M. Da Costa, M.D.,

PROFESSOR OF THEORY AND PRACTICE OF MEDICINE, AND OF CLINICAL MEDICINE IN JEFFERSON MEDICAL COLLEGE HOSPITAL.

(Special Report.)

I. REMARKABLE SPECIMENS FROM A CASE OF ULCER OF THE STOMACH.

II. CHRONIC GASTRITIS SUCCESSFULLY TREATED BY WASHING OUT THE STOMACH.

I shall first call your attention to these specimens from a case that was in the hospital only for a few days before his death. Owing to this man's very scanty knowledge of the English language it was impossible to obtain anything like a complete history of the case. We discovered enough, however, to connect the clinical evidence during life with the remarkable results of the *necropsy*.

J. P——, aged fifty-five years, an Italian, spoke nothing but his native language; a plasterer by trade; was admitted on the first of November in an extremely prostrated condition. Of his previous history, partly owing to his inability to communicate with us, and partly owing to his debility, we could only ascertain that he had been intemperate in his habits and had suffered from general dropsy for a space of two months some twelve years ago. His dropsy was then said to be caused by kidney affection, but the evidence that this disease had much to do with that of which he died was not very strong. After this dropsical period his health remained good until six months before his admission, when his appetite began to fail, and he was troubled with indigestion, flatulence, and dyspnœa, and experienced a burning pain in the pit of his stomach. For the last two months these symptoms of pain and indigestion have been complicated by vomiting, especially in the morning, and occasionally at other times. This vomiting grew in intensity, and lately has become constant, so that he rejects everything; not only solids, but also liquids. We never saw blood in the matters ejected, yet he said that on a few occasions the vomit had a coffee-ground appearance. Bowels were very constipated. He had no motion at all during the six days prior to his admission.

His condition upon admission was one of great emaciation; of extreme suffering from pain. His face was all drawn to one side and his complexion straw-colored. His conjunctivæ were slightly stained and he seemed older than his years. There was a marked *arcus senilis*. His abdomen was resistant, and rather full, and there was tenderness at the epigastrium. I could detect no tumor. The fulness of the abdomen seemed to be due to the fulness of the recti muscles. There were very offensive eructations, with fetid vomit and glairy mucus. The tongue was dry and red, but not much coated. He was very weak.

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* That the hemorrhage was due to inertia and not to the lacerations, was proved by the fact that contraction of the uterus stopped the hemorrhage and relaxation was followed by profuse bleeding.

He remained in the hospital for a few days in this condition. Our attempts at nourishment were not successful. He threw up all the milk and lime-water which we gave him, and even the beef-tea. A moderate amount of stimulus, however, was retained. We tried to discover whether the entrance of food into the stomach produced pain, but it was hard to reach any conclusion regarding this point. A turpentine injection moved the bowels, giving rise to the evacuation of large masses. He rapidly grew feebler, a profuse sweat broke out, and he died in a state of collapse, the vomiting having prevailed to the very last, but there was no discharge from the bowels. I wish to call your attention to the remarkable results of the *necropsy*.

Liver.—Small, dense, fatty—the liver of an intemperate man. There was a slight increase in its fibrous texture, with fatty degeneration of the hepatic cells.

Kidneys.—Somewhat harder than normal, but no degeneration of their structure. Urine examined repeatedly with negative results.

Heart.—Flabby, somewhat fatty.

But what symptoms had there been during life indicative of the remarkable lesion of the stomach disclosed by the *necropsy?*

Stomach.—Cutting it open at the cardiac extremity we found it slightly dilated, with very thin walls, and, as we progressed toward the pyloric extremity, we came across a big hole (this is really the most expressive explanation which I can give of its appearance), due to a large ulcer which had laid bare and eaten away the muscle and the peritoneal covering, so as to establish a communication with the large intestine. It was an extraordinarily large perforating ulcer, communicating between the large intestine and the stomach.

Now, we have an explanation of the vomiting, pain, and occasional coffee-ground appearance of the vomit. This explains why we were not able to detect the presence of any tumor (we had suspected cancer of the stomach). It is very strange that there was so little intestinal irritation. The history does not mention it at all; on the contrary, the constipation was constant through life, and the *necropsy* showed no peritonitis. The ulcer evidently did not cause much disturbance.

Regarding the *character of the ulcer*, I do not think it is cancerous. The absence of thickening and of growth are against the idea of cancer. I will tell you at our next meeting what the microscope reveals. The stomach symptoms were marked, and the intestinal symptoms obscure. There is no evidence whatsoever of peritonitis.

DILATATION OF THE STOMACH.

You remember that this patient was before you last year. We were then treating him for dilatation of the stomach. You remember that our treatment consisted in washing out the organ thoroughly with a slightly alkaline solution. As the patient is again in the hospital I have thought that you would be interested in seeing him once more. You recollect what remarkable success attended our treatment by washing out the stomach after we had tried all kinds of alteratives and tonics. We repeated this process of washing out every second day for three or four weeks. At the same time we gave small doses of nux vomica. Under this *régime* he gained flesh, the vomiting ceased, and he was able to digest his food. He remained well until quite recently, after leaving the hospital. He comes back with some of the same symptoms, but not in the same degree. He is also suffering from a large irreducible hernia.

The question which presents itself with regard to present treatment is: shall we resume the washing-out process, or, as the gastric symptoms are not so very prominent, shall we first try other methods before we subject the patient to this? On the supposition that this case is one of chronic gastritis and atony let us first try eight drachm doses daily of the tincture of nux vomica in water. At the same time his diet shall be strictly regulated. He must avoid potatoes, and take only a certain amount of solid food, such as underdone meat, oysters, and milk with lime-water. After every meal he had better take ten grains of saccharated pepsin.

Progress of Medical Science.

ANEURISM OF THE ARCH OF THE AORTA CURED BY REST, RESTRICTED DIET, AND IODIDE OF POTASSIUM AND ERGOT.—Dr. R. Sutton communicates to the *American Journal of Medical Sciences*, October, 1880, a case of aneurism of the arch of the aorta, in which a cure was effected by rest, restricted diet, and the administration of iodide of potassium and ergot. The patient, female, aged twenty-one years, was seized with a violent pain in the region of the heart while at work, and for six months afterward was subject to repeated attacks of pain and frequently fainted. Dr. Sutton saw her for the first time about nine months after the seizure, and an examination revealed an aneurism of the descending portion of the arch of the aorta. The ribs were bulged up above the plane of the chest-wall; the thrill was very loud, and the impulse was visible in the second intercostal space. She remained under treatment for one year. During this time she was secluded from all excitement, and took, three times daily, from ten to twenty drops of fluid extract of ergot and five grains of iodide of potassium. She was also put to bed at absolute rest for five and a half out of every six hours—the half-hour being allowed for quiet walking about the room. Her nourishment was restricted to ten ounces of material, fluid and solid together, for each twenty-four hours. This regime was strictly adhered to for thirteen months. At the end of this time she was reduced to almost a skeleton, and an examination revealed the fact that the aneurism was cured; the action of the heart was weak and irregular, with a distinct anæmic bruit. From this time her nourishment was increased, drachm doses of bitter wine of iron were given, and she was allowed to be up and down at will. Her cure appears to be permanent. At a meeting of the Allegheny County Medical Society, held June 15, 1880, the patient was examined by a committee, which reported that the aneurism was cured, and that the only evidence of disease at the time was a slight endocardial murmur.

On the Cause of Bad Odor of the Feet, with Directions for Treatment.—Dr. George Thin, in the *British Medical Journal*, September 18th, asserts that the cause of the bad odor which is sometimes associated with excessive sweating of the feet is to be found in the coverings of the feet, and not in the sweat itself. In his experiments, which were reported to the Royal Society, he discovered that the reaction of the moisture in the stocking and in the sole of the boot was alkaline, and that the reaction of the moisture exuding from the skin of the sole of the heel was faintly alkaline, whilst that of the perspiration of other parts of the body was acid. The fluid from the sole of the heel was thus shown to be not pure sweat, the faintly alkaline reaction being doubtless due to the serous discharge accompanying the eczema set up by the local hyperidrosis. The fluid in the sole of the stocking was found to be teeming with bacteria forms—*Bacterium fœtidum*. The rapid development of bacteria in the fluid which exudes from the soles is doubtless favored by the alkaline reaction produced by the mixture of serous exudation with the sweat. The following treatment was found to be effective: the stockings were changed twice daily, and after taking them off, the stocking-feet were placed for some hours in a jar containing a saturated solution of boracic acid. They were then dried, and were fit to wear again if desired. The boracic acid effectually destroyed the smell. But to kill the bacteria in the stocking was not enough. The leather in the bottom of the boot is wet and sodden, and smells as vilely as the stocking. This difficulty was removed by the use of cork soles. A pair must be worn only one day unchanged; at night they must be placed in the boracic jar, and be put aside the next day to dry. The boracic acid solution is an excellent application to the painful skin in these cases; when the tender skin of the soles is washed with it, a sensation of coolness succeeds the feeling of heat and tension which are the usual accompaniments of the eczematous condition associated with the smell, and the skin becomes harder and loses its abnormal redness.

Fracture of Ninth Dorsal Vertebra, with Partial Dislocation—Recovery.—Dr. H. Hickman, of St. Louis, reports a case in the *St. Louis Medical and Surgical Journal*, Sept. 20, 1880, where there was every reason to believe the injury to be a fracture with partial dislocation of the ninth dorsal vertebra. There was no sign of paralysis. Patient, aged thirty-eight years, a brewer, while hoisting a bucket of ashes, was precipitated into a cellar, a distance of ten feet, in consequence of the breaking of a pulley-bracket, and was found on the floor doubled up and unconscious. Upon examination a considerable displacement was noticed, which was shown by a marked depression superiorly with a corresponding projection below; besides this, the soft parts on either side of the injured spine had developed into tumoid prominences, affording ample proof of the immense strain they had been put to. The patient was at once lifted by the shoulders almost off his feet, while steady, increasing pressure with the thumbs was applied. This soon appreciably reduced the dislocation, and a compress and bandage were applied, and the patient put to bed. He suffered from an exceedingly acute pain at the base of the neck and upper part of the chest, but had very little pain at the seat of the injury. The next day he was able to micturate, and the soft parts having almost resumed their normal outline, a plaster-jacket was applied. The patient was posed on his hands and knees during the ten minutes required for the necessary bandaging, and although then suffering acutely, his pain subsided as soon as the plaster hardened, and never returned while he wore it. The bowels remained torpid for six days, but this being a very common occurrence among brewers, who, on account of accident or for other good reason, are suddenly denied their usual very liberal allowance of beer, it was not thought to be due to any direct result of the injury. Five months after the accident the only signs of the injury were a bifurcation of the dorsal groove at the site of the fracture, and a very slight swell of the posterior curve of the right thoracic wall rising above the line of injury. The jacket was reapplied but once during these five months.

Treatment of Infantile Diarrhœa by Powdered Charcoal.—Dr. Guérin, in referring to a recent communication to the *Académie de médecine*, made by Bouchardat, remarks that for a long time he has been in the habit of combating infantile diarrhœa by mixing the milk in the suckling-bottle with charcoal powder. He usually adds half a teaspoonful of the powder to one bottle of the milk. The infants take the milk readily, and in a few days the greenish stools of the little patients change to a dark yellow, while their consistence becomes increased. In addition to the admixture of powdered charcoal, the milk is diluted by one-half or one-third of its bulk of sugared water. He has frequently seen intractable summer complaints yield in a few days to this treatment.

Note on Vulvar Eructation.—This phenomenon, which consists in a noisy expulsion of gas from the vagina, has been observed by Dr. Löhlein in 8 out of 750 gynecological patients. The conditions for its production are, according to him, the introduction of air into the vagina in consequence of insufficient vulvar occlusion and under the influence of an excess of the atmospheric pressure over the intra-abdominal pressure, and the expulsion of this air under the influence of a sudden augmentation of the intra-abdominal pressure. He thinks that we have to deal in these cases with atmospheric air, and not with gas developed in the vagina or coming from the intestines. The conditions which render the vulvar occlusion insufficient are: 1, lateral fissures of the posterior part of the vulva when combined with a limited development of the labia minora and majora; 2, an excessive laxity of the vaginal walls, combined with a slight rupture of the perineum. In none of the cases was there a deep rupture of the perineum. The positions of the body most favorable to a production of the phenomenon are those which diminish the intra-abdominal pressure, such as the knee-elbow position, the decubitus on one side of the belly, the dorsal decubitus with the arms raised above the head, the act of rising suddenly in bed, etc. The phenomenon was always met with during the first week after labor. The treatment consisted in closing the vaginal fissures by sutures and in astringent injections.—*Lyon médical*, September 5th.

Seats for Saleswomen.—The four representative dry-goods houses in Philadelphia, employing from one hundred and fifty to two hundred women each, as clerks, now provide seats for their saleswomen when not engaged with customers. A number of smaller establishments have imitated their example. The employers report that the plan works excellently.

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PHYSIOLOGICAL EDUCATION.

It was the custom up to one hundred and fifty years ago to keep young infants so tightly swathed and bandaged that they could scarcely move their limbs at all. When Rousseau wrote his "Emile," a work which started a revolution in educational methods, he began by attacking this pernicious practice of infant bandaging. It was not only a physical evil to the child, but it typified well the narrow and distorting influences which the priestcraft and statecraft threw over the education of the young at that time. Rousseau advanced a new and startling idea: it was to give the child the utmost freedom in education: to teach him those things only which he liked; to develop and improve those tendencies which the child spontaneously displayed; to put nature first and books last. This idea, though nearly smothered with accompanying exaggerations, was taken up by others; it has of late years been developed in the kindergarten system of Germany and the *salle d'asyle* of France. And now we see it still more fully expanded in the prevalent discussions upon "scientific" and "physiological" systems of education. There has been no abler advocate of physiological education than the late Dr. Edward Seguin, whose principal work upon the subject has just reached its second edition.* Dr. Seguin's book, however, is but one of the indications of a wide interest in the subject. There have been sharp assaults upon our cherished common-school system from many quarters. Literateurs, political economists, school-superintendents, and scientists have all had their say against it, and, though the agitation may have brought out some exaggerations, we find in it a sure evidence that some change is needed and will take place.

This new movement for educational reform has an interest to the physician, since it aims to bring into greater use among teachers and pupils that knowledge with which he is especially familiar. The aim of the physiological method in education is "to train all the organs to accomplish their functions in the most physiological manner; and to elevate all the functions which are under the control of consciousness to the rank of intellectual capacities, and make them concur in the operations of the mind and of the will." The methods by which this is to be accomplished are, in part, the extension to the common school of certain of the features that characterize the kindergartens. Instead of the present Procrustean system, by which a fixed number of rules, definitions, and facts are dosed out to be taken by a fixed number of boys and girls in a certain fixed time, each study is to be adapted to the child and presented to him in such a way that he learns it with actual pleasure. Base-ball and arithmetic, writing and skating, are to come with equal ease and satisfaction to the learner.

This may seem a very utopian idea, though even if it be so there is no doubt that a place for education considerably this side of utopia would be better than its present one. The agitation for a physiological education indicates a tendency to secure more science for the teacher and less ill-judged compulsion for the scholar. And so far it is a healthful tendency and one to be encouraged. There are in it two features that especially deserve the attention of physicians: It is part of the new system, first to see that the sanitary condition of the school-room and the physical well-being of the child be kept at their very best; and, second, to see that the special senses and bodily dexterities be developed to the highest point possible. The sanitary condition of the schools is a subject that need not be discussed now, though wanting attention badly enough. But the question of how much can be done for the mind, by a proper training of its special servants, is one deserving much more study than it has yet received. Dr. Seguin argues strongly for the greater employment of this kind of training, and he would begin with the unborn child and teach the mother to beware of those physical or emotional activities which may affect her offspring. He would have the infant lie as much on the right side as on the left, in order that the right brain may not be compressed. Acting upon the theory that man has two brains, he would make him ambidextrous, so, perhaps, helping to develop both hemispheres. Training the eye, the ear, teaching habits of observation, making the pupil acquire some special dexterity of hand or body, all these methods lead, it is claimed, to brighten and expand the intellect, and to make the man fitter to perform his work in life.

It can be easily seen that this sense-education must be of value in the mental development of the child. In determining how great this value is, the observations of the intelligent physician can be of great assistance. We do not believe, for our part, in carrying too far this system of object-teaching and sense-education. There must still be such a thing as discipline and text-books; the latter tell, perhaps, in a few pages, the results of the studies of many years, and the observations of thousands of persons. Undoubtedly our common schools need a change—but not too much of Rousseau.

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* Report on Education, by E. Seguin. United States Commissioner on Education at the Vienna Universal Exposition. Milwaukee, Wis.: Doerflinger Book and Publishing Co. 1880.

DIPHTHERIA AND SCARLATINA.

The statistics of the Bureau of Contagious Diseases show an alarming increase in the number of deaths from diphtheria and scarlet fever. During the past two months the cases of scarlet fever which were reported have ranged from fifty-four weekly, at the commencement of the period, to one hundred and fifty-one for the week ending December 4th, the percentage of deaths being twenty and a half. The diphtheria cases for the same time commenced at ninety-four weekly and ended at one hundred and sixty-seven, with forty-six per cent. of deaths. From these figures it would appear that about one in every five cases of scarlet fever, and more than two in every five cases of diphtheria, succumb to the disease. This would make the prevailing type of the former disease very severe, while that of the latter would be malignant. But in reality we can safely assume that such is not absolutely the case in either instance. The proportion of deaths to the cases reported is unusually large. The only way to reconcile this apparent discrepancy is to accept the fact that all the cases are not reported, and that consequently the diseases are very much more prevalent than the figures of the health-bulletin would lead us to suppose. We believe this to be true, judging from the testimony of some practitioners who are attending large numbers of cases of both diseases, and who habitually neglect to report them to the board, unless compelled to do so by a death certificate.

Considering the widespread prevalence of both diphtheria and scarlet fever, the types of the diseases are not unusually severe at present. But this is by no means a subject for congratulation at this early season, in view of the reasonable possibility of the increase of both diseases during the winter and spring, and the probable increase of their malignancy. Very few physicians have lost fifty per cent. of their cases of diphtheria thus far. Even twenty per cent. would be a very high figure. Still the prospect of the continuance of this comparatively low ratio of mortality is far from promising. At least, the wise practitioner must be on his guard, and do everything he can, not only to treat promptly and efficiently all cases in hand, but prevent their increase. It is true that the community is reasonably well educated by the health authorities concerning the contagious character of these diseases, but it is essentially the province of the attending physician to emphasize the injunctions of the board by giving some personal attention to preventive measures. At the outset of an epidemic of both these diseases, this advice should have more than its usual force. Whatever can be done by the physician to narrow the chances of the spread of the contagion, lessens the chances of mortality even in mild epidemics. Concerning the spread of both diphtheria and scarlet fever there are certain well established causes. Whether one can believe in this or that theory of infection is not essential. The physician can always afford to be on the safe side by giving his families the benefit of the doubt. To this end he should see to it not only that the houses are properly ventilated, but that the privies, water-closets, drains, and cellars are in good condition. A personal inspection regarding these points has so often been rewarded by tracing the causes of disastrous mortality in certain houses that no special pleading is needed for it. A knowledge of principles of good plumbing and proper drainage is as essential to the physician as is that of any other preventive of disease. None of these factors in the problem of contagion are beyond solution, and oftentimes the physician is the first one to grapple with them in the interests of the life and health of those under his care.

The danger of the propagation of both diseases in the schools will readily suggest itself. While it is proper to state that the Health Board does all in its power to reduce the chances of the spread of diseases in them to a minimum, its efforts are far from being successful. It is true that the moment cases of contagious diseases are reported the number of the houses in which they are contained are sent to the schools of the district, and children of the same or different families, residing in said houses, are sent home. But in fifty per cent. of these cases the mischief travels ahead of its supposed prevention. There is every incentive for those inclined to spread disease to conceal its existence in their families, and this is at the foundation of all the difficulty with which all health boards must contend, and which difficulty it is virtually impossible to circumvent under existing circumstances, except by the special aid of the physician in attendance.

While referring to the duties of the physician, relating to the prevention of these diseases, it is unnecessary to say that said duties extend to other contagious maladies, notably to small-pox, which is cropping out in an ominous way in our city. In regard to the prevention of this disease there is now a special responsibility which is thrust upon the physician in advising vaccination for all unprotected persons, and revaccination for all doubtful subjects. Not only are contagious diseases quite prevalent in this city, but they are showing themselves to such an extent in different parts of the country, that our remarks have more than a local application. Thus far diphtheria leads the rest. That it will probably continue to do so goes without the saying. With the increased opportunities for studying its etiology and pathology it is to be hoped that some new facts will be added to the history of this dreadful disease, which may help us to treat it to better advantage and lessen what now appears to be its inevitable rate of mortality.

QUACK ADVERTISEMENTS IN THE RELIGIOUS PRESS.

The religious press takes such high ground in moral as well as spiritual matters that it should be above the suspicion of wrong-doing in the ordinary affairs which concern the worldly-minded; and yet that this is not always the case we have frequent and melancholy examples. Not the least of these latter are the publication of the most objectionable quack advertisements, under the cover of a general guaranty that everything which appears in the paper is in keeping with its character as a high-toned religious journal. And yet this is done in almost every religious periodical that reaches us. On one side of the page of such a journal we read of the growth of Christianity, and of its benign influence upon the heathen, and on the other side is the advertisement of a blood-purifier, and of its good offices in curing "biliousness," "dyspepsia," and "liver complaint." In one column is a tirade against lotteries, claiming that it is "a shame and grievous wrong that the government itself should be the minister of these demoralizing institutions," and in another place are published a number of certificates of bogus and impossible cures from a notorious quack advertiser. In the same editorial occurs this statement, made in evident good faith, and with the laudable intention of making a telling point: "It is one of the curiosities of human nature that men will on one page of their newspapers advocate good morals, and on another page pander to the pernicious and ruinous propensities of their fellow-men." We advise the editor of the *Observer*, if he would be consistent, to look after the quack advertisements in his paper.

MLLE. BERNHARDT AND HISTRIONIC DEATH.

Doubtless those physicians who saw Mlle. Bernhardt during her recent appearance in this city will admit that there is much of pathological as well as of dramatic interest in her various performances. It is currently reported, in the first place (though we do not credit the story), that the renowned actress is in either the first or the second stage of phthisis. It is undoubtedly the fact that she works extremely hard, and sometimes to the point of syncope. If she has not phthisis, the etiology of her extreme attenuation furnishes a most suggestive topic of inquiry. As she is reticent upon this subject, however, the pathologist can only speculate, noting meanwhile how much better artistic millinery acts in relieving emaciation than cod-liver oil.

The phenomena of most absorbing interest, however, connected with Mlle. Bernhardt are her modes of dying. These, up to the present time, are of six different kinds, and present rich opportunities for a study of the moribund condition. The causes of the deaths, so far as our analyses go, may be, as usual, divided into two classes: the remote and the immediate. The former cause seems always to be connected with an acute hyperpyrexia of the emotions. The fair *moritura*, while suffering from this disturbance, is treated with, as it were, the cold plunge. In other and less figurative language, there is generally some fiend in red tights or domino, who, by craft or violences, induces a solution in the continuity of previously happy *affaires du cœur*, the result being dismay, despair, suicidal frenzy, and finally the moribund condition now under discussion.

The immediate causes of death are various, and here we find the best opportunities for pathological study. The artist dies by poisons, by (presumably) hemorrhage from incised wounds, or by injury of vital parts; and sometimes, it seems, by a direct inhibition of vital processes incident to the intensity of the emotional excitement or the subjective violence of the suicidal purpose. The artist presents, therefore, at different times the symptoms of vertigo, blanching of the face from vaso-motor inhibition of the arterioles (and possibly face-powder), irregular cries, convulsions, both clonic and tonic, and finally syncope, the latter occurring generally on a soft Persian rug, or a sofa.

These symptoms, as a rule, receive no treatment, unless the homage of tears and applause from the audience be considered such. On no occasion is a medical man called in, which is obviously a departure from realism and good sense, if not from high art. For it is true that some of the convulsions look as though they might be controlled by appropriate treatment. We wish simply to analyze, however, and not to criticise the subject before us.

Mlle. Bernhardt's deaths are remarkable, artistic, and effective. We must confess to having seen few in real life that moved us so deeply. The death-struggles, we may say, were remarkably life-like, in a certain sense. We have never seen their equal in real death. We can recommend the profession to study the phenomena of the histrionic death as shown in Mlle. Bernhardt; for a physician may practise all his life and never see anything like them.

DRUGGIST AND PHYSICIAN.

At a recent meeting of the Philadelphia County Medical Society, the relations of the druggist and physician was the topic for discussion. A great deal of interest was evinced, and the propriety of physicians dispensing their own medicines, in order to prevent unauthorized renewals of prescriptions and overcharging by druggists, was maintained by a number of the speakers. It was stated that a physician who dispenses his own drugs is ineligible as a Fellow of the College of Physicians of Philadelphia, but this is evidently a mistake. The whole question of the relations between druggists and the medical profession, and the proper steps to be taken to secure co-operation of both professions in correcting present abuses, was referred to a committee, corresponding, we suppose, to the Comitia Minora of the Medical Society of the County of New York.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 18, 1880.

Fordyce Barker, M.D., LL.D., President, in the Chair.

The Librarian's report announced the reception of eight bound and one unbound volumes, twenty-five pamphlets, and sixty-six medical journals since the last stated meeting.

The Statistical Secretary, Dr. Francis V. White, announced the death of Brigadier-General Richard S. Satterlee.

Dr. T. Herring Burchard then read a paper on

OPERATIVE INTERFERENCE IN ACUTE PERFORATIVE TYPHLITIS.

The paper was based on observations made in four fatal cases which had fallen under his own observation, and its chief point of interest was in the answer to the question: "Is this disease necessarily fatal?" He regarded it as surprising that some definite plan of treatment should not have been devised before this, for an affection the anatomical lesions of which were of such a nature as not to preclude surgical interference. All hopes from the use of medicinal agents had been buried in the uniformly fatal termination of the disease. He therefore suggested that by timely surgical interference there was reasonable hope of saving a certain proportion of lives. His plea was based upon the following propositions:

1. The lesion in acute perforative typhlitis is not necessarily fatal; but it derives its fatality from the rapid development of intercurrent fatal complications: first, shock from perforation; second, peritonitis from extravasation of fæces.
2. The patient once resuscitated from shock is yet imminently menaced with peritonitis.
3. The irritant action of extravasated fluids upon the peritoneum being well-known, was it not one of the surgeon's responsibilities to relieve the peritoneum of that source of irritation prior to the development of acute fatal inflammation?
4. Lumbar typhlotomy, properly performed before the development of peritonitis, should give additional chances for life.
5. While the proposed operation, performed under such desperate circumstances, could not be expected to furnish average successful results, nevertheless, its mortality should not be an argument against its employment, if thereby a single additional chance for life was offered.

Dr. Burchard then referred to many reported cases of wounds of the intestines in which recovery had taken place, notwithstanding the large openings that had been made; and regarded it as singular that injuries of such gravity could be recovered from, while minute perforations in the appendix vermiformis were so fatal. Doubtless the fact could be partially explained by the existence and inversion of the mucous membrane in the former instance, and their absence in the latter, which permitted the immediate extravasation of fecal matter into the peritoneal cavity.

About twenty per cent. of those patients were killed by the shock, and in some of the remaining he believed that recourse to surgical interference *before the advent of peritonitis* might be proper. With reference to diagnosis, the disease had no pathognomonic symptom; but the history of the case, coupled with the symptoms developed, afforded fair presumptive evidence of its existence. In nearly all the recorded cases of perforation there was a history of *previous attacks of cæcal* distress or of well-marked typhlitis, more or less severe. *Pain* to be significant must be developed acutely and be localized. Shock was a third prominent factor in diagnosis, and ranged from syncope at the onset to overwhelming collapse.

Dr. Burchard then read the histories of the four cases which he had observed. For this class of cases he remarked that the ordinary operation for the evacuation of a perityphlitic abscess would be useless, and proposed an operation to be performed in the following manner:

"Guarded by every antiseptic precaution, why not in such cases cut down on the perforated appendix from the side, as in Amussat's operation? Wash with antiseptics the adjacent peritoneal surfaces, so cleansing them from all irritating exudations, secure by stitches the ulcerated appendix to the mouth of the wound, and so afford free and perfect external drainage.

"The operation is readily performed. The appendix is most easily reached by a transverse incision, commencing two inches in front of the anterior border of the longissimus dorsi muscle, and extending forward about six inches parallel to and just above the crest of the ilium. Integument, fascia, and muscles are carefully divided, until the peritoneum is reached; this is opened, and the posterior surface of the cæcum and the appendix are exposed.

"Performed at an early period, before the occurrence of general peritonitis, and under the protective influence of antisepsis, that the dangers of septic poison may not be added to dangers already existing, I believe that this operation offers a better chance for life than any procedure at present practised for the relief of this terrible disease."

The opinions of several eminent surgeons were then given in support of the proposed method.

The paper being before the Academy for discussion, the President referred to two cases in which error in diagnosis occurred, one being diagnosticated as perforative typhlitis, but autopsy proved it to be a case of pelvic hematocele; the other being diagnosticated as pelvic hematocele, but proven by autopsy to be one of perforation of the appendix vermiformis.

Of course the proposed operation would be out of the question in cases of pelvic hematocele, but how could the differential diagnosis be made, even in the light of modern science; and it was with the view to eliciting opinions upon that point that he reported two cases, as follows:

In 1852 a young lady, the daughter of a physician, while returning home from church, was suddenly seized with pain in the right iliac fossa. It was very near to the period of menstruation, and before she reached home there was some bloody discharge from the vagina, but none afterward. The pain was severe, and was followed by shock, and subsequently intense peritonitis developed, first local and then general, and within forty-eight hours she died. Soon after she was brought into the house, Drs. J. Kearney Rodgers and Reese reached the case, and within a few hours Drs. Carnochan and Barker were added to the council. It was the opinion of all the gentlemen that the case was one of perforation of the appendix vermiformis. At autopsy neither inflammation of the cæcum nor perforation of the appendix were found, but pelvic hematocele and general peritonitis.

In 1872 the wife of a physician was seized suddenly with intense pain in the right iliac fossa, there was a discharge of blood from the vagina, and peritonitis quickly developed, and she died on the second day after the attack. Dr. Barker, with three or four others, deservedly eminent, saw the patient, and there was considerable tumefaction in the right iliac fossa, with great tenderness and severe pain, excessive tenderness of the vagina, and the uterus could not be moved on account of its increased size and tenderness. Dr. Barker's diagnosis was pelvic hematocele, and in that opinion all the consultants joined. At autopsy no extravasation of blood was found into the pelvic cavity; the uterus contained a very young ovum; the cæcum was filled with fæcal matter, some of it very hard; the appendix was at least three times its normal size, had a distinct perforation as large as a very large pin, and fæcal matter had escaped into the peritoneal cavity.

Dr. L. Weber remarked that the statements of the surgeons which had been quoted by the author of the paper, in support of the proposed operation, could not be applied to that operation, because they were the opinions of those surgeons concerning an operation entirely different from the one under consideration—namely, for the relief of intestinal obstruction. The proposed operation Dr. Weber regarded as prophylactic in character to a certain extent, and under such circumstances he thought it a matter of very great difficulty to decide whether or not, in a given case, it should be performed. To illustrate: in *four* cases which had fallen under his care, and in which an operation was performed successfully at a later period, one on the eleventh, one on the ninth, and two on the seventh day after the first symptom developed, all the patients recovered. In one of the cases the patient had suffered from distinct colicky pains for one or two years before the final attack occurred in the right iliac fossa; and in all the cases the onset of the disease was as had been described by the author of the paper—pain, shock, and subsequent peritonitis, which became localized within twenty-four hours, and on the third day more or less of the characteristic tumefaction could be made out. In none of those cases would he have been warranted in interfering by operative procedure at an earlier date than that on which the operation was finally performed, and yet all the patients recovered. He believed that at present it was impossible to say positively whether or not the appendix had been perforated, except by autopsy or by the formation of adhesions. He thought that the question was immensely difficult to answer when asked with reference to a prophylactic operation.

Dr. Weber then referred to a case that had lately been under his care, and which possessed points especially interesting. A gentleman, aged fifty-three years, who had enjoyed an average degree of health, came to him with intermittent fever, from which he finally recovered. A few days subsequently, on a Wednesday, he came, saying that he had a pain in the right side of his bowels. There was no fever, and the pain was not severe. A cathartic guarded with opium was administered. On Thursday morning Dr. Weber found that his patient had passed through the period of shock attending perforation and into peritonitis. His abdomen was universally tender, particularly in the right iliac region; he was vomiting, had had no stool, and the doctor thought he would die within a few hours of general peritonitis. But he did not; and under the free use of morphine hypodermically, and stimulants, he rallied, and at the end of forty-eight hours was out of immediate danger. No tumor developed anywhere. Four days afterward the bowels moved spontaneously, and the patient was doing well. On the fifth day the bowels began to move at 6 A.M., and discharged ten or twelve times spontaneously; the abdomen became rigid, the pain increased, and death occurred from general peritonitis that night. He reported the case for the purpose of directing attention to the importance of not discontinuing the opium too soon, especially in elderly patients where there is diminished tendency to plastic exudation; and repeated action from the bowels should be prevented.

Dr. R. F. Weir said that he had been interested in the paper, because it helped to confirm an idea that had been floating in his mind for ten years. He believed that where the diagnosis could be clearly made out, and he could easily understand that it would be difficult, perhaps a long time would elapse before he could feel sure and before he would advise the performance of the operation; but when sure of the diagnosis, he would advise the operation, as it gave a chance of saving a human life. He thought he would go a little further than Dr. Burchard had done, and would say that the patient would have a little better chance of recovery if the operation should be performed, even after peritonitis has developed. He also joined with Dr. Weber in the statement that the conclusions presented by the author at the close of his paper were not apposite in this connection, because there was more than intestinal obstruction, namely, a foreign material in the peritoneal cavity.

Dr. Quackenbos referred to a case in which the patient died within twenty-four hours after she was seized with the intense pain. There was a difference of opinion concerning diagnosis, but Dr. Alonzo Clark's was verified at autopsy, when a perforation of the appendix vermiformis was found. Lodged in the opening was an apple-seed and a piece of the husk of the core.

Dr. Wm. T. White referred to a case in which there was found at autopsy an abscess projecting forward from the anterior wall of the appendix, about the size of a small hickory-nut. There were no adhesions. There was no evidence of peritonitis. The abscess had ruptured, and caused the death of the patient within a few hours.

Dr. J. C. Peters had seen several cases, all of which had been preceded by repeated attacks of pain in the region of the cæcum. He also referred to the fact that Dr. Jacobi had called attention to the occurrence of such attacks prior to the perforation of the appendix.

Dr. A. C. Post was inclined to think that some hope might be afforded in some of these cases by performing an operation, as suggested by Dr. Burchard, and he agreed with Dr. Weir in the opinion that peritonitis was not a reason, necessarily, why it should not be performed.

The President remarked that Mr. Spencer Wells had proved that peritonitis was an indication for the immediate performance of ovariotomy to prevent it from being fatal. He thought that opinion was generally accepted by ovariotomists where the peritonitis was due to the ovarian cyst.

Dr. Burrall suggested the constant wearing of a flannel bandage about the abdomen in cases of repeated typhlitis, as a prophylactic against the attack, which might require operative procedure.

Dr. Chadsey favored the proposed operation, and **Dr. Sell** spoke of the difficulties in diagnosis.

Dr. Burchard, in closing the discussion, admitted the difficulties in diagnosis, but believed that occasional cases occurred in which the history of the patient was well-known to the physician—a history of repeated attacks of typhlitis—and in that class of cases he believed the surgeon was justifiable in cutting down at once after the patient had rallied from the collapse, and establishing free external drainage.

The Academy then adjourned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Stated Meeting, November 29, 1880.

Dr. A. E. M. Purdy, President, in the Chair.

Dr. David Webster read a paper on

AMBLYOPIA FROM THE ABUSE OF TOBACCO AND ALCOHOL (SEE P. 649).

The paper being before the society for discussion, **Dr. D. B. St. John Roosa** remarked that the task of proving the causes of diseases was a difficult one. It was, in a general way, well settled what the cause of intermittent fever was, but the exact nature of malaria was far from being definitely known. So, also, the cause of certain lesions occurring in syphilis was generally recognized; but when we came to speak of the abuse of tobacco as a cause of disease we were upon much more unsettled ground than that occupied with reference to either syphilis or malarial fever. The abuse of tobacco, if the cause of amblyopia, was not a universal cause. Take, for example, the Turks, who smoked from morning until night, and during the night, and, so far as statistics went, tobacco amblyopia was almost, if not quite, unknown among them. Again, all about us there were men who smoked from the time of getting up until the time of going to bed, and yet had no occasion to consult oculists on account of disturbed vision. In the light of those facts we were amid difficulties, and when they were coupled with the observations made by Dr. Ely, who did not find tobacco amblyopia among constant workers in the weed, the difficulties surrounding the question were greatly increased. But it should not be said, on account of those difficulties, that tobacco amblyopia did not exist; yet, he thought that other things were at work, in conjunction with tobacco, in causing these peculiar eye-symptoms. Nevertheless, he believed as firmly as did Dr. Webster that amblyopia was caused by tobacco and alcohol combined, but he thought that it remained unproven that amblyopia had been caused by *tobacco alone*. The author of the paper had referred to Dr. Jonathan Hutchinson's views and statistics, and had quoted his words as those which went far toward settling the difficult question; but, Dr. Hutchinson had been wrong in some of his statistics upon other subjects, and Dr. Roosa thought that his observations were also incorrect in this particular. Dr. Roosa thought that Dr. Webster's cases did not sustain the belief that amblyopia was produced by tobacco alone. He did not believe that amblyopia was caused by tobacco, unaided by alcohol. He would not say that he disbelieved it; but, as yet he was not prepared to accept the belief that it did. As an illustration, a man with naso-pharyngeal catarrh and thickened mucous membrane of the middle ear, was very liable to break one of his drumheads while bathing in the surf; while he who had a moderately sound pharynx took only a very small chance of having his drum-heads ruptured during sea-bathing. So, he thought, it was concerning tobacco and alcohol amaurosis. When the histories of that small percentage of all eye cases, less than $\frac{1}{100}$ per cent., were read, it would be found that most of them had lived lives which would not guarantee immunity from disease in many ways.

There was one interesting feature in Dr. Webster's statistics, namely, they did not include the cases of any clergymen. Dr. Roosa had seen three clergymen who had, as he believed, amblyopia depending upon the abuse of alcohol and tobacco.

With reference to Dr. Webster's conclusion, that amblyopia from tobacco and alcohol was not uncommon, he would say that, while he would not disagree, perhaps, strenuously with it, he did not think the cases were of very frequent occurrence.

Again, whatever might be said with reference to etiology, his personal experience inclined him to support Dr. Webster in his opinion concerning the efficacy of strychnia in this treatment of the affection. He would not dare to withhold the strychnia in such cases.

The incipient atrophy of which the author of the paper had spoken, Dr. Roosa had not seen in any great proportion of cases. He had more frequently seen dirty white disks than smallness of the vessels. In some cases ophthalmoscopic examinations had told him, literally, nothing, and yet the patients improved promptly upon abstaining from the use of tobacco and alcohol, sometimes alone and sometimes in conjunction with strychnia.

While such a question could not be settled at once by observations made by any one man, or any set of men, the subject was greatly illuminated by such contributions as that with which the Society had been favored, and he believed all would agree that, to certain persons living under certain conditions, alcohol and tobacco might become so poisonous as to produce in them failure of vision, which was remedied in a large proportion of cases by correcting their habits, and by the use of such remedial agents as strychnia.

Dr. H. Knapp believed that tobacco and alcohol amaurosis was by no means rare. It constituted a considerable percentage of his private practice, and to a certain extent was seen in his hospital practice. The remark that some were affected unfavorably by alcohol and tobacco, but that the majority were not, could be applied to all causes of disease. Again, it must be recollected that there was not only a difference in the tolerance among different persons, but that the tolerance manifested by any one person while young might not be sustained through life.

Like the pitcher that goes to the well, it gets broken at last.

With regard to diagnosis, persons came complaining of impairment of vision; they were examined and, as was usually the case, central vision was rather low, and ophthalmoscopic examination did not reveal any change adequate to account for the impairment of sight. That was in the beginning of the case. But when the case was an advanced one, a proportionate change was found in the optic disk, and still later the arteries and veins might become so much reduced, both in size and number, that the disk resembled the highest degrees of atrophy.

But returning to the class of cases in which there was no adequate changes in the disk to explain the impairment of vision. In those cases, Dr. Knapp believed there was something characteristic in the functional disturbance itself. The periphery of the field of vision in those patients was normal, and colors could be distinguished quite well, but not so in the central portions of the visual field. In the central portions of the visual field there is achromatopsia, and sometimes it required examination with small pieces of colored paper, or similar objects, to detect it; and, from that degree, the defect might be increased until they become totally color-blind. Therefore, when he saw a patient whose central visual field was very low and peripheral visual field good, and whose central perception of colors was wanting, and the peripheral perception of colors normal, and there was no change in the fundus, he gave a good prognosis, as a rule, because radical improvement was usually obtained. He had seen exceedingly rapid improvement take place in such cases without the use of remedies, and a case in point was related. When we had to deal with reasonable people, and gave them no remedy other than perhaps iron, and bromide of ammonium or potassium at bedtime, good results were generally obtained; and the first improvement was manifested in color perception, beginning with yellow and blue, and, within a few weeks, all scotoma has disappeared.

He believed that such cases were not isolated, but were as common as glaucoma, and it was an important disease for the general practitioner to become acquainted with and to treat. The cases of rapid improvement from strychnia had seemed to him to be more or less isolated.

Dr. O. D. Pomeroy regarded the extremely rapid improvement under the use of strychnia, mentioned by Dr. Webster, as exceedingly interesting, and such as exceeded the experience of any other observer in this country. However, he had seen good results follow the use of strychnia, and he should continue its use, because of those good results, although there were many difficulties encountered in determining whether or not the strychnia cured the patient. He thought it was very difficult to determine the exact cause of the disease in this class of cases. Many persons had amblyopic symptoms, and when their eyes were examined with the ophthalmoscope the conditions found did not really prove anything—the outer portion of the disk being a little white, the inner portion a trifle reddish, and the border a little inexact, etc. In seeking for a cause the examiner was very apt to fasten upon some disease of which there might be only obscure evidence, such as syphilis, kidney, cerebral, or cardiac disease; but it was well-known that the number of the cases was great in which no adequate cause for the trouble could be found. The etiology of the affection under consideration was difficult to determine. Tobacco and alcohol seemed to be so intermingled that it was with great difficulty they could be separated. His own belief was that tobacco had but little influence in producing amblyopic symptoms, while at the same time he felt quite sure that alcohol exerted a marked influence in the production of those symptoms. For, abstaining from alcohol alone would cause improvement, while abstaining from tobacco alone had little or no effect. But there was another element to be taken into consideration, and that was visual intelligence. The amount of a patient's vision, when tested for the first time, depended largely upon his visual intelligence. A stupid patient might read $\frac{20}{30}$, while an artist, with the same actual condition of the eyes, would probably read $\frac{20}{18}$. Again the cultivation of the visual intelligence was another factor in the case; for a constant improvement took place by simply testing the patient; that is, he could see better with the same eyes at the close than at the beginning of the exercise. There was also another factor which must be considered, and that was the improvement that might result from the lapse of time. However, he was in favor of being upon the side of the positivists rather than among the negativists, and should continue to inject strychnia, hoping to improve the vision of his patient.

Dr. W. B. Mittendorf remarked that he used strychnia in these cases quite extensively for four or five years, and nearly every time the patients were made worse instead of better, thus proving that abstinence, perhaps, was a more important factor than the strychnia in effecting a cure. All his patients were below par in their general condition, and he had thought that, as soon as the system gets reduced, tobacco and alcohol would produce their ill effects; for so soon as they were tolerably well they returned to their old habits with apparent impunity. He regarded strychnia, however, as a valuable remedy, yet care should be exercised in its administration. He then referred to a case in which $\frac{1}{60}$ of a grain, given to a man thirty years of age, produced such marked symptoms of poisoning that he was afraid to repeat the remedy.

Dr. C. R. Agnew said that he placed his cases at Dr. Webster's disposal, knowing, as all who knew him did, how accurate and conscientious he was in all his observations, and how capable he was of making adequate and logical deductions. He also said that he had been somewhat surprised at the tendency which he thought had been manifested to wander from the facts in the paper. The gentleman knew quite as well as he did that statistics, if there be such to any very great extent, with regard to the effect of tobacco upon the people of the Eastern nations, especially the Turks, were not such as we would be quite willing to adduce here in support of the innocuous character of tobacco. He thought there were not many observers in the East whose judgment in this matter we would be willing to accept in New York, where, it might safely be said, the results of careful general ophthalmoscopic observation had been carried to a niceness and accuracy that certainly did not exist in the East, if it existed anywhere abroad. This subject, like many others, had been subjected to great scrutiny, and probably there was a greater aggregation of careful observers in this city than could be found in any single place in the world. He for one was not disposed to accept Oriental statistics, as he knew them, as really having much bearing upon the subject. He was free to say, and in that he agreed with the gentleman to whom he alluded, that amaurosis from tobacco alone, without the possible occurrence of syphilis and the possible abuse of alcohol, was comparatively rare. But, on the other hand, there existed curious facts, which made it safe in drawing the logical conclusion that there was a pathogenetic relationship between alcohol and tobacco, hence they were united in the discussion of that particular form of disease. He thought that the ground would be much more securely occupied if, in treating a series of cases hereafter, we should insist upon abstinence from tobacco alone and alcohol alone, and observe the clinical phenomena. One of the gentlemen had confessed his scepticism as to the effect of remedies. But it could not be denied that abstinence from the use of tobacco and alcohol, in some of the cases reported, had enabled the patient to spring up in the use of his nerve-power and show improvement so rapidly as to exclude the influence of the mind upon vision, which the gentleman would lead us to infer had been exerted. Again, that element did not enter, because the observations were made in his office, where they had two tables of test-type, one differing entirely from the other, for the purpose of excluding that possible source of error. If a patient read $\frac{20}{100}$ on the first day, and several days afterward, with the same illumination, and either under the effect of abstinence or under the influence of a remedy, he read $\frac{20}{70}$, and it was repeated a sufficient number of times, the inference was that his mentality of vision had not been so cultivated as to enable him to read a line of letters which on the first day he could not see.

Dr. Agnew believed that all proper precautions had been taken in making the observations. The urine had been examined by Dr. Maxwell, whose ability was fully recognized, and the physical examinations of the chest had been made by Dr. Leaming, or Dr. Clark, or Dr. Flint.

In order to determine the frequency of such cases, they must not be compared with the total number of cases of ophthalmic disease. It was obviously proper, in getting the relative frequency, to exclude large classes of cases. Children should be excluded, and blindness from such causes as cataract, detachment of the retina, conjunctival affections, etc. If the cases were selected in which the dioptric apparatus was not affected, but those in which the lesions were in the perceptive apparatus, he thought it would be found that the number of cases was relatively large, although it might be absolutely small. He could not recall many cases in which tobacco was the sole cause of the amblyopia, but had had a few. He believed that the relationship between the two poisons—tobacco and alcohol—was such that they were indissolubly united in some persons, and that we should seldom succeed in breaking them from one habit unless they were broken from the other. We should make issue with the patient, and insist that he abstains *totally and at once* from the use of both tobacco and alcohol. Then, after waiting a reasonable time—a week or ten days—use the strychnia if necessary. He had waited the time indicated and seen little or no improvement, and had then seen the vision of several patients doubled in strength while in his office and after receiving an injection of strychnia. He felt personally indebted to Dr. Webster for gathering the facts presented, and he regarded them as indisputable.

Dr. Knapp remarked, concerning the injurious effects produced by either tobacco or alcohol alone, that alcohol was more injurious than tobacco. He had seen a few cases of toxic amaurosis in patients who had the opium habit.

Dr. Roosa remarked that Oriental statistics had been subjected to a criticism with which he did not agree. The point which he wished to make was, that tobacco amblyopia was rare. He did not believe in it; he did not disbelieve in it; and he adduced as some of the reasons for his non-belief, Dr. Ely's observations, which were sufficiently accurate to endure any criticism, and statistics furnished by a gentleman in Constantinople, and published in Dr. Brudenell Carter's text-book on diseases of the eye. True, they were not such statistics as Dr. Webster had furnished, but they were those of a physician who said, in general terms, that amblyopia seemed to be unknown among the Turks, and he had made his observations as a medical man. From those statistics and from general observations, Dr. Roosa thought that *tobacco* amaurosis was not particularly common, and he did not regard the statistics adduced by the author of the paper as pertinent to the subject of the influence which tobacco *alone* had in producing amblyopia.

Dr. Agnew remarked, that he would not discard Dr. Ely's statistics by any means; but he believed that in the discussion of this particular subject we must exclude the evidence of physicians who had not subjected the vision to the test of its acuity, and had not given us positive statements with reference to the amount of vision the patient had, and the effect of remedies in changing the amount of that vision. As to the effect of trades upon the health, it was well known how broad the subject was, and how soon the observer got to sea when he entered that field of observation. He thought that Dr. Ely's statistics could be justly applied to the question under discussion.

Dr. Webster remarked that the *rapid* improvement of vision under the influence of strychnia occurred in cases of amblyopia from alcohol and tobacco. But he had seen vision considerably improved by its use in cases of atrophy of the optic nerve from other causes. Yet, after a time, vision had failed in the latter cases despite the use of strychnia. In the amblyopic cases the rapid improvement was permanent.

On motion by Dr. Mittendorf, a vote of thanks was extended to Dr. Webster for his admirable paper.

Dr. J. C. Peters made a preliminary report from the committee appointed to confer with a similar committee from the College of Pharmacy with reference to a city ordinance regulating the sale of poisons, poisonous drugs, etc. The joint committee had recommended that the Board of Aldermen adhere to the ordinance already before them.

STREET-CLEANING AND REMOVAL OF NOXIOUS ODORS.

Dr. Peters also offered resolutions, which were adopted.

Resolved, That many members of this Society, have noticed, with regret, the dilapidated and filthy condition of the majority of the streets and avenues of this city, and their gutters, especially on the East and North rivers, and in the great plague districts from whence all great epidemics either originate or are greatly intensified; but to which paving materials are most easily conveyed, and from which the great masses of filth which encumber them are most readily removed.

Resolved, That many members of this Society, probably the great majority, are fully convinced that this state of things is the sole cause of much sickness and mortality.

Resolved, That in the opinion of the great majority of the members of this Society, the large quantity of street or gutter filth, slops and garbage which is carried down into our sewers, causes much increase of the quantity and malignity of the sewer gases, followed by a still greater sickness and mortality.

Resolved, That a moderate appropriation for the better paving of some of the worst conditioned streets, notably the Eleventh and part of the Tenth avenue, and for improving the condition of the sewers, will not only be timely, but absolutely necessary, to prevent New York from becoming a permanently unhealthy city, with great sickness always abounding, and great plagues and pestilences often appearing.

Resolved, That this Society will petition all persons in authority to aid it and its Committee on Hygiene to place this city in a better sanitary condition.

Resolved, That in the presence of probable great epidemics of diphtheria and small-pox, and of others which will surely come at no great distance of time, that the Board of Aldermen should now, if ever, become the watchful guardians of the public health, and enforce all those ordinances which they have so wisely passed, also create new ones if necessary; and that it should be pleased to instruct its Corporation Counsel and all its law officers to watch for, detect, and condignly punish all offenders against its own laws and ordinances.

Resolved, That the Police Board be requested to instruct its officers and patrolmen to faithfully observe and report all breaches of the laws against the defilement of the streets and gutters; and that its attorneys and law-officers prosecute all offenders rigorously.

Resolved, That the Street Cleaning Bureau be requested to strain every effort with its present appropriations and appliances to remove all the street dirt, ashes, garbage, etc., from the city at once, and constantly; also, if stress of weather prevent it from carrying these loathsome but useful fertilizers down to sea, that it makes the best arrangements possible with parties along the Harlem and Hudson River and other railroads, and with persons in New Jersey, Long Island, and other neighboring places, who will be glad to get them for fertilizers and filling materials.

Resolved, That the legal counsel of the Street Cleaning Bureau be requested to exert its utmost diligence and ingenuity in drawing up contracts with these parties of equal force, at least, and completeness, with those which ordinary business men make daily.

Resolved, That the Department of Public Works be requested to defend its sewers and docks from all injury which may arise from defective street cleaning, and to employ legal counsel necessary for this purpose.

Resolved, That the Board of Health, which is especially constituted to protect the health of the city at all hazards against all corporate and private interests, be requested to use all its powers to have our streets and gutters better cleaned; our sewers better protected and amended; that it increase its corps of Sanitary Inspectors in order that all nuisances may be better detected and obviated; and that it take immediate steps to remove all noxious trades, shanty districts, and plague spots, which cannot or will not be controlled by sanitary science.

Resolved, That the great slaughtering and plague districts on the east and west sides and centre of the city be put in the best sanitary condition that the Boards of Works and Health can devise; that the streets and docks in their neighborhood be repaired and cleaned; that the manure and garbage dumps near the great slaughtering districts be promptly removed; and that all the offal-rendering establishments be ordered away, as far as possible, from the places where the principal parts of the meats are killed, especially on the east side of the city; for freshly killed meat requires the purest air all around it.

Resolved, That all these petitions and resolutions be presented to the Honorable Board of Aldermen with a respectful but most earnest request for all its aid and best advice in these matters, and subsequently the special points which refer to particular departments be placed before them also.

[The above resolutions have been referred to the Committee on Law of the Common Council.]

The Society then adjourned.

Correspondence.

AMBLYOPIA FROM THE ABUSE OF TOBACCO.

To the Editor of The Medical Record.

Sir—In the discussion on Dr. Webster's paper at the last meeting of the County Society, I alluded to the alleged absence of the so-called "Tobacco Amaurosis or Amblyopia" in Turkey. I was speaking extemporaneously, and I was not able to say whether the opinion that there was little amaurosis in the East, was founded on the observations of a general practitioner or on that of a specialist. It was thought by one speaker that the opinion was not entirely pertinent to the discussion, because it was not founded on exact observations like those of Dr. Webster's. On looking up the subject in the work from which I was quoting, that of Mr. Carter,* I find the opinion better substantiated than was supposed. I beg, therefore, that you will print the quotation in connection with your report of the discussion in question. Mr. Carter says "I quoted a letter from Dr. Dickson, of Constantinople, . . to the effect that the consumption of tobacco in that city averaged about three pounds weight per head per month for the whole population, but that amaurosis was a rare affection there; and also a letter from Dr. Habsch, the principal oculist in Constantinople." (I now translate the statement of Dr. H., who wrote in French.) "As to the effect of tobacco upon the eyes, it is very problematical. All the world here smoke, from morning until night, the men smoke a great deal, the women a little less than the men, and children smoke from the age of seven to eight years. I have never attributed amaurosis to the use of tobacco. The number of smokers is immense, the number of cases of amaurosis is limited. In persons with a very delicate skin and conjunctiva, smoking freely causes chronic irritations, local congestion, blepharitis ciliaris, continuous lachrymation, and a more or less intense redness" (of the eyelids). "So much for the effect of tobacco."

I am, sir, yours respectfully,
D. B. St. John Roosa.

December 1, 1880.

* * *

Subjects for Dissection are lacking in the London medical schools, and special applications have been made for the bodies of unclaimed paupers.

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* Diseases of the Eye, London, 1875.

CLINICAL ADVANTAGES IN PHILADELPHIA.

To the Editor of The Medical Record.

In your issue of November 4th there is what purports to be an extract from the *London Lancet*, written by a Philadelphia correspondent, reflecting seriously upon the clinical teaching of the Philadelphia hospitals. "Clinical study," says this Cerberus, "in the medical curriculum, is apparently unnecessary. I was assured that at the Jefferson College, which is one of the leading medical schools in the country, a man might take his degree in medicine and go forth to practise his profession without ever having seen a case."

Who this slanderer is I, of course, do not know, but I am deeply chagrined to see such a paragraph in your widely-circulated journal without a flat contradiction. Instead of this, you place a part of the last sentence in italics, with a note of exclamation, as much as to ask, "Can this thing be possible?"

This thing is not possible. Everybody acquainted with the history of the Philadelphia schools knows that the statement of the correspondent of the *London Lancet* is false in every particular. Without going into comparisons, it is safe to assert that nowhere on this continent is there greater attention bestowed upon clinical teaching than there is at our hospitals. Elderly men, middle-aged men, and young men, all able, more or less highly cultured and fully up, in point of knowledge, with the existing states of the various branches of the medical sciences, are daily engaged for at least ten out of every twelve months in delivering instruction of this kind in connection with our large and well-equipped hospitals. As to the Jefferson Medical College, into which this slanderer seems to take special delight in fastening his venomous fangs, it is a well-known fact, a fact which long ago passed into history, that it was the first school in this country in which clinical instruction was given. It was emphatically the founder of the surgical clinics of the United States, if not also of the medical. Those who were acquainted with Dr. George McClellan, the founder of the school—a man of great genius and of large reputation as a skilful surgeon and an eloquent lecturer—will have no difficulty in awarding to him this distinguished honor. For at least forty years the college has prided itself upon its clinical teachings in surgery, medicine, and midwifery, to which were recently added gynecology, ophthalmology, otology, and laryngology—in fact, everything that is taught in any of the best schools in the world. Daily clinics are held in the magnificent amphitheatre in the new hospital dedicated three years ago. What is true of the Jefferson College in this respect is equally true of the University of Pennsylvania. Both schools have most able corps of clinical teachers, inferior to none in this or, I venture to assert, in any other country.

The slanderous statement of the London correspondent can only be explained on the supposition that he is the very fellow who, by the grace of God, obtained a degree from the college *without ever having seen a case*, his indolence and indifference not having permitted him to avail himself of the precious pearls that are daily thrown before *such* swine in the ample amphitheatres of the Philadelphia hospitals.

I am, very truly yours,
S. D. Gross.

Philadelphia, December 5, 1880.

[We made the quotation for what it was worth, and on the authority of a correspondent of the *London Lancet*. We preferred that a denial of the facts in the case should come from headquarters, and we publish the letter of Prof. Gross with great satisfaction.—Ed.]

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 28, 1880, *to December* 4, 1880.

Majors J. R. Smith and J. S. Billings, Surgeons, directed to represent the Medical Department of the Army at the eighth annual meeting of the American Public Health Association in New Orleans, La., on December 7, 1880, and upon adjournment of the Association to rejoin their proper stations. S. O. 351, A. G. O., November 26, 1880.

Coues, Elliot, Capt. and Asst. Surgeon. Relieved from duty assigned him in S. O. 134, July 3, 1876, from A. G. O., and to report in person to the Commanding officer, Department of Arizona, for assignment to duty. S. O. 251, A. G. O., November 26, 1880.

King, J. H. T., Capt. and Asst. Surgeon. Granted leave of absence for four months. S. O. 253, A. G. O., November 29, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending December 4, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Nov. 27, 1880.	0	10	110	4	16	122	3	0
Dec. 4, 1880.	0	13	151	3	29	167	10	0

A Chair of Physiology is to be established at Oxford University.

Snow-Blindness, according to Dr. Reed, of Detroit, can be cured by the administration of nitrite of ethyl.—*Canadian Journal of Med. Science.*

Investigation of Insane Asylum Methods.—The Senate Committee to inquire into the alleged abuses in the management of insane asylums, and to suggest measures of reformation, if necessary, began its work in this city on November 30th. A very large amount of testimony has been taken already, and at date of writing the investigation was still going on. The testimony began with the presentation by Dr. McBride of a petition to the Legislature, prepared by a Committee of the Neurological Society on Insane Asylum Abuses. This petition presents very forcibly the various points that have been so often made against the present system of asylum management. The testimony of the different witnesses against present methods, was for the most part an elaboration of the various indictments made in the petition. Some of the statistics given, however, and particular facts testified to, were of much interest.

The proportion of assistant physicians to patients in 1878 was as follows:

At the Utica Asylum, 4 assistants to 600 patients; at the Hudson River State Hospital, 2 assistants to 250 patients; at the Willard Asylum, 5 assistants to 1,340 patients; at the City Lunatic Asylum for Females, Blackwell's Island, 7 assistants to 1,267 patients; at the Institution for Males on the same Island, 5 assistants to 1,084 patients; at the Kings County Asylum, Flatbush, 4 assistants to 700 patients, the proportion of assistants to patients varying from 1 to 268 in the female asylum on Blackwell's Island to 1 to 125 in the Hudson River Hospital.

As illustrating the evil that may result from the insufficient number or incompetent character of attendants, the burning of the insane asylum at St. Paul, Minn., was instanced. Here a lunatic was allowed by his keeper free access to the kerosene.

Regarding the benefits of employment, Dr. Hammond testified that at the Poughkeepsie Asylum Dr. Cleveland was in the habit of turning out patients, with strong homicidal tendencies, with pickaxes and other formidable implements in their hands, and this without any evil results.

Regarding insufficient salaries, Mrs. J. S. Lowell stated that the salaries of the superintendents of our city asylums were from $2,000 to $2,400, while the superintendents of asylums through the State received from $3,500 to $4,000. Both the present superintendents of Ward's and Blackwell's Islands were good men, but it was a wonder that they were under such a system. Of the assistant physicians only a few received salaries. There were two who received $500 each, three who were paid $300, and one who received $250. As a rule, the assistants received only their board. As to the nurses, she thought there should be a higher grade established, with better pay, to which competent nurses could be promoted. With this additional grade and increased numbers, she thought the present pay of $18 to $20 per month sufficient. The great faults of attendants were ignorance and want of judgment.

Regarding the scientific work done at insane asylums, it was stated that $30,000 had been expended in the Utica Asylum for scientific investigations, with very inadequate and unscientific results, which results had been adversely criticised by distinguished foreign authorities.

As to overcrowding it was testified that of the 1,200 insane males on Ward's and Blackwell's Islands, there was not room for more than 500. Of the 3,029 insane belonging to the city, there was not accommodation for more than 2,000 at the outside in the present institutions. There was not room on the islands for more hospitals. The number of insane under medical control had increased 100 per cent. in nine years, and the State had paid $10,000,000 in the last decade for new asylums. With this large number of insane patients on their hands, the Commissioners of Charities had also to care for 7,000 other persons, and the 3,000 lunatics were left with no one but the superintendents to care for them. It was thought that, in view of the large sums contributed by New York to the erection of new hospitals in the interior, the State might well be called upon to pay the salaries of the medical superintendents and staffs of these local institutions.

As to political influence, Dr. L. C. Gray testified that in Kings County there existed (with a few honorable exceptions) the worst and most unscrupulous of Commissioners. The method of appointments by Commissioners was bad. Under the present system anybody could be appointed to take charge of 800 to 900 patients, without anything like adequate knowledge of insanity, which was one of the worst, most complicated, and difficult to treat of all diseases.

For evidence on the other side, Dr. A. E. MacDonald, Dr. Franklin, the charity commissioners, and others, principally asylum employees, were called in. Dr. MacDonald denied that excessive restraint was employed in the Ward's Island Asylum. Most of the other facts given by previous witnesses, regarding the management of the city asylums, were confirmed, but the witness thought that the superintendents did all that was possible under the circumstances. Dr. Franklin agreed with Dr. MacDonald for the most part. He defended the use of the crib.

THE FUNERAL OF HEBRA was an event to be remembered in Vienna. A procession one mile and a half in length followed the remains to their resting-place. A great multitude rendered the streets almost impassable. Eager to do him homage, laymen, students, scientists, and nobles, all commingled, paid by their presence that silent tribute which is more eloquent than words. He lies buried by the side of the great Rokitansky.

The successor of Hebra is Professor Kaposi, who is well known to the profession by his various contributions to the literature of dermatology. A person of quick, nervous temperament, he combines a vast knowledge of his subject with the qualities of a brilliant lecturer and a good teacher. His class numbers more than that of any other teacher in his department.—*Cor. Cincinnati Lancet and Clinic.*

THE TREATMENT OF ACNE ROSACEA, or "whiskey-nose," by electrolysis, is advocated by Dr. G. S. Mitchell *(Cincinnati Lancet and Clinic)*. He reports seven cases cured, or almost so, by this method. He uses fifteen or twenty cells (galvano-faradic cabinet battery). One or both poles of the battery are armed with needle-electrodes, and these are introduced here and there into the dilated vessels. The needles are not allowed to remain more than half a minute in one place, the treatment lasting about five minutes. From eight to twelve seances were sufficient to cure the patients. The operation is painful, though not so much so as to require an anesthetic.

MEDICAL PRACTICE IN AUSTRALIA.—A correspondent of the *British Medical Journal* deplores the state of medical affairs in Sydney and the adjoining places. The greatest difficulty, he says, which meets attempts at reform, is the great sympathy shown for unqualified practitioners by the people and even legislators. Many think that these latter are better and more honest men than the regularly qualified physicians. Sydney and the other larger towns of the colony are well provided with good practitioners of high standing; yet in spite of this, many people rush off to any one calling himself a homœopath, whether duly qualified or not. Impudence and advertisement, especially if combined with the word homœopath, seem to ensure success invariably. They all advertise, and generally some specialty, such as cancer-cure, etc. There are some Chinamen in the colonies who call themselves doctors. One of these, at Sydney, is a "Dr. On Lee," and many people run after him who ought to have more sense. He finds out as best he can beforehand, what other doctors think about his patient, and then takes up a glass, which he holds before his patient: then with the greatest confidence, he tells the patient that he has seen in the body the very spot affected, and finally gives the patient a small diagram showing the exact spot.

Efforts to pass a law in Parliament remedying these abuses have so far failed. Australia and New Zealand seem to very well supplied with doctors. There is a superfluity, indeed, in the cities. The country practices are hard and not very lucrative. Still there are many places where a good living can be obtained by perseverance and work.

The Telephone as a Cause of Aural and Nervous Diseases.—A reporter of the *New York World* has been interviewing eminent specialists in nervous and aural diseases as to the effect which the use of the telephone has upon the human organism. One specialist reported that he had then a telephone operator under treatment for certain nervous disturbances which he thought might have been brought on by the instrument upon which the patient was employed. Another said that, as every new invention produced a new disease, something might be expected from the telephone, though it was as yet too soon to say what the particular trouble would be. On the whole, pathologists may look hopefully to the telephone for the production eventually of some new phenomena.

Epizoötic in Ottawa.—Seventy-five per cent. of the horses in the Ottawa district are affected with the epizoötic.

A Death from Hydrophobia has been reported in Washington. The patient was a boy, aged eight years, who was bitten in the cheek four weeks ago by a hound.

Small-Pox.—Ten cases of small-pox were reported in this city last week. Twenty patients are now in the Small-pox Hospital, Blackwell's Island.

The American Public Health Association commenced its eighth annual meeting in New Orleans, December 7th. About one hundred members were present.

A Death from Trichinosis occurred on Saturday last, at Bellevue Hospital. The patient was a young butcher who had been in the habit of eating raw pork.

Cod-liver Oil in Epilepsy.—Dr. Fairbairn, of Brooklyn, N. Y., writes: The digestive disorder and annoying and disfiguring eruption which result from taking the bromides in large doses for a length of time, are serious disadvantages connected with the administration of these salts. A remedy which will prevent the bad effects of a medicine, and at the same time will rather aid than detract from its good effects is certainly a valuable one. I think in this case we have such a remedy in cod-liver oil.

A young lady suffering from epilepsy has been under my care for the past five months, who has taken bromide of potassium in large doses for nearly a year, and by this remedy cod-liver oil has warded off the above troublesome results. The mode of taking it was this: Brom. potas., ʒ ss., was taken thrice daily after eating; this was followed one hour after each dose by ol. morrhuæ, ℥ ss. When first attacked by the malady she had eight convulsions in the twenty-four hours. She began the bromide in ʒ ss. doses, but was compelled to stop it on account of the gastric derangement. A friend recommended the cod-liver oil. She resumed the bromide, adding the oil, and has taken it without further trouble since. The eruption, before profuse, disappeared under this management. The disease has been well controlled, only four convulsions having occurred in the past seven months. I doubt not that the cod-liver oil has had its share in the direct benefit done to the nervous system, besides affording a protection from the irritating salt to the coats of the stomach. In summing up the good effects of the oil I find: *First.*—Absence of the digestive disorders. *Second.*—Absence of the acne eruption. *Third.*—That the anæmia, usually found in persons taking this medicine continually, is far from being marked. *Fourth.*—The body is better nourished, and appetite unimpaired. I have made trial of this treatment in other cases, with similar good results. As the articles that have appeared in your journal, in the past month, on the bromides, have made no mention of this device, I have been led to write the above.

Contagious Diseases in 1879 and 1880.—The Bureau of Vital Statistics furnishes the following statistics of mortality in this city from contagious diseases for the nine months ending Sept. 30th, compared with the corresponding period last year. Small-pox, 6 deaths; 1879, 25; scarlet fever, 279; 1879, 1,370; diphtheria, 737; 1879, 453; measles, 468; 1879, 126; croup, 527; 1879, 295; whooping-cough, 219; 1879, 469; typhus fever, 1; 1879, 3; typhoid fever, 109; 1879, 126; malarial fever, 339; 1879, 299; cerebro-spinal meningitis, 133; 1879, 84.

From the above it will be seen that there has been an increase during the present year in diphtheria, measles, croup, malarial fever and cerebro-spinal meningitis. In all but malarial fever the increase is about double.

There was a decrease in small-pox, scarlet fever, whooping-cough, typhus, and typhoid fevers.

The Medical Profession and the Homœopaths.—Numerous instances of consultations between homœopaths and regular physicians occurred in Dublin not long ago. The practice, indeed, had existed for some time. But finally it became so glaring that the Royal College of Surgeons took up the matter.

After some discussion they passed resolutions condemning the practice of consulting with homœopaths and denouncing homœopathy as a deception not to be tolerated among physicians and surgeons who have a regard for their professional character. This resolution was confirmed by the council of the college, and raised quite a storm among the homœopathists who, of course, denounced this action of the regular profession as narrow, bigoted, and cowardly. The resolutions of the Royal College were reasserted, however, and have been sustained by the feeling of the profession.

The *Medical Press and Circular*, in some very forcible comments upon the matter, says words that are worth repeating: The profession distinctly refuses association with homœopaths, because it believes the tenets of that schism—and more especially infinitesimalism—are not doctrines which may be honestly held by reasonable, thinking, and educated gentlemen, but are, on the contrary, theories put forward to attract the uninitiated and impressible section of the public. Of the doctrine of "*Similia similibus curantur*" we do not speak now, for, although with some knowledge of what has been written in its favor, we believe it to be unscientific, delusive, and erroneous, we can still conceive a practitioner honestly holding it and acting upon it. But with regard to infinitesimalism we cannot use any other phrase than to characterize it as a fraud to which no practitioner worthy of professional association should descend. We know, as a matter of fact, that very many homœopaths do not practise on such principle . . . . ; and with every desire to take the broadest and most charitable view of the erratic ideas of individual practitioners, we really cannot coerce our intelligence to believe that homœopaths have any more real confidence in the doxology advocated in the homœopathic Koran than we have.

Death from Blood-Poisoning.—Dr. Thomas Wood, a prominent surgeon of Cincinnati, died November 21st from the effects of blood-poisoning, caused by attending with chapped hands to the wounded in the recent railroad accident on the Cincinnati, Hamilton and Dayton Railroad.

The Adulteration of Food.—The prize of $1,000, offered by the National Board of Trade for "the best act or acts, accompanied by an essay, designed to prevent injurious adulteration, and to regulate the sale of food without imposing unnecessary burdens upon commerce," has just been awarded to Vernon M. Davis, of this city, and William H. Newell, M.D., of Jersey City Heights. The committee also recommend the printing of the essays of O. W. Wight, M.D., of Milwaukee, Wis., and Albert B. Prescott, of Ann Arbor, Mich. The report declares that none of our staple articles of food or drink are so commonly adulterated as to be dangerous to health or life, and that there is much more danger in this country from adulterated drugs than from adulterated food. Both state and national laws upon this subject are desirable.

The International Medical Congress.—At a recent meeting of the Executive Committee of this Congress, it was announced that considerable progress in the arrangements for the coming meeting had been made. Circulars in different languages have been sent to medical men throughout the world. Many and eminent members of the profession everywhere have expressed their interest in the Congress and have promised to be present.

At the Annual Meeting of the Virginia Medical Society held at Danville, October 19th to 22d, Dr. Hunter McGuire was elected President for the ensuing year; Dr. Landon B. Edwards, of Richmond, was re-elected Recording Secretary, and Dr. M. M. Walker, of Richmond, Corresponding Secretary. The next annual meeting is to be held at Warrenton, the date to be settled by the Executive Committee.

The Troubles of a Private "Provident Dispensary."—A kind of woman's private provident dispensary, where the poor could get treated for twenty-five cents, was started in this city last year by two irregular female physicians. About two months ago a disagreement began and the ladies separated, one of the partners occupying the first floor, the other the second. The former woman exercising what she considered her rights as the tenant of the lower floor of the house, had a number of large blue signs painted, and covered the front of her floor and the door with them, to the exclusion of the sign of the lady of the second floor. The latter remonstrated. Receiving no redress, she had prepared a number of conspicuous signs, bearing her name and the title of her establishment in red and white colors. These she had nailed up wherever she could find an unoccupied space about the door, in the vestibule, and even under the front door-bell. War followed, and the matter was carried to court where by means of counsel the matter has been amicably settled.

Locomotor Ataxia Cured by Nerve-stretching.—Dr. Langenbeck reports a case of tabes dorsalis cured by stretching the two sciatic and crural nerves. The stretching was done at different times, and was performed antiseptically. The ataxic symptoms began to disappear very rapidly.

"The West Still Ahead."—The new medical school, somewhere in Minnesota, which started off with such a firing of guns on account of its adopting a four years' graded course, has not, it is said, a single student.

Who first Described Malarial Puerperal Fever.—Some correspondence has appeared in the *Virginia Medical Monthly* upon the above topic. Dr. Hugh M. Taylor claims that the malarial puerperal fever was first described by Dr. O. F. Manson, twenty-five years ago, in the *Virginia Medical and Surgical Journal*. Regarding this claim Dr. Theophilus Parvin writes: "So far, so well. But were there not heroes before Agamemnon?" He then gives quotations from various old works tending to show that as early as 1775 Dr. Butler wrote upon the disease in question; that in 1824 Dr. Blundell, and in 1828 Dr. Burns did the same thing. Dr. Parvin also states that the malady had long been recognized by old practitioners in the West.

In reply to Dr. Parvin, Dr. Taylor reasserts his claims for Dr. Manson, and analyzes the alleged descriptions of the disease by older writers. On the whole, he makes out a pretty strong case for Dr. Manson. Puerperal malarial fever may have been known and treated before 1855, but Dr. Manson seems to have been the first to describe it distinctly.

Pirogoff, the distinguished Russian surgeon, has recently celebrated the semi-centennial anniversary of his admission to the doctorate. Pirogoff is said to be not only a great surgeon, but an eminent philanthropist.

A Monthly Journal of Otology, Laryngology, etc., is to be published in London shortly.

Arsenic in Tincture and Solution of Perchloride of Iron.—Mr. F. W. Fletcher, V.C.S., having noticed that arsenic was quite frequently present in hydrochloric acid, thought that it might very likely be found in the tincture and solution of the perchloride of iron. On making an analysis of several samples obtained from leading drug-houses his suspicions were confirmed. Arsenic was found in the proportion of from ten to fifteen grains per 100 fluid ounces of liquor.—*The Analyst.*

The Lumleian Lectures will be delivered this year by Dr. Reginald Southey. Subject: "Bright's Disease;" the Croonian Lectures by Dr. Moxon, on the "Influence of the Circulation on the Nervous System;" the Gulstonian Lectures by Dr. Coupland, on "Anæmia."

Books Received.

Medical Heresies Historically Considered. By Gonzalvo C. Smythe, A.M., M.D. Philadelphia: Presley Blakiston. 1880.

Horses' Teeth: A Treatise on their Mode of Development, etc. By W. H. Clarke. New York. 1880.

How a Person Afflicted with Bright's Disease ought to Live. By Joseph F. Edwards, M.D. Philadelphia: Presley Blakiston. 1881.

Construction, Organization, and General Arrangements of Hospitals for the Insane, etc. By Thomas S. Kirkbride, M.D., LL.D. Second edition. Philadelphia: J. B. Lippincott & Co. 1880.

Food for the Invalid, etc. By J. Milner Fothergill, M.D., London, and H. C. Wood, M.D., Phila. New York: Macmillan & Co. 1880.

Original Lectures.

CARTWRIGHT LECTURES,*

ON THE

PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

By ROBERTS BARTHOLOW, M.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

(Special report for The Medical Record.)

Lecture V.

THE ANTAGONISM BETWEEN REMEDIES AND DISEASES.

Mr. President and Gentlemen—One of the aphorisms of Hippocrates was that some diseases are cured by contraries; but he was also wise enough, you will remember, to add that some diseases are cured by similars. Even at the remote period when he lived it was already obvious that no one law or dogma could embrace all the various conditions of disease. The doctrine of antagonisms is necessarily applicable only to physiological pathology (if such an expression may be permitted), and not to structural pathology, unless it is remedial by physiological processes. The limits being thus set to our inquiry, we may proceed to examine into the nature and extent of the antagonisms between remedies and diseases, or between the actions of remedies and the symptoms of diseases.

The first historical example of the treatment of a symptom of a diseased state by its physiological antagonist is

THE TREATMENT OF PARALYSIS BY STRYCHNIA.

As has already been stated, we owe our knowledge of this subject to Magendie, whose researches in regard to it were so thorough that later investigators have been able to add but little to the information gained by his discoveries. This investigation, which was the pioneer in a hitherto untried field, is in striking contrast, as regards the permanence of its results, with the variable and fleeting opinions which usually result from empirical methods. Fouquier was the first to prescribe strychnia in paralysis, in accordance with the views which Magendie had deduced from physiological research, and since then a vast amount of clinical experience has accumulated in regard to this important agent.

Strychnia exalts the reflex function of the spinal cord, and is, therefore, antagonistic to those conditions of disease in which this function is impaired. It also strengthens the action of the heart and increases the arterial tension by its stimulating action on the vaso-motor system, and therefore is physiologically opposed to all effects of disease which are of a contrary nature. Furthermore, it powerfully stimulates the respiratory function (causing death from asphyxia, if given in sufficient doses, by exciting the respiratory muscles to tetanic contraction), and is therefore the antagonist of those symptoms of disease which indicate depression of respiration. When we come to examine how far the deductions of theory are confirmed by clinical experience, we find the most abundant evidence to establish their correctness. Diphtheritic paralysis affords an excellent example of the type of the paralysis to which strychnia is an antagonist. It is chiefly a functional paralysis, and although some structural changes have been detected in the spinal nerve-roots, they are remedial under the changed conditions brought about by the action of the strychnia. It being obvious that the remedy will produce the better results the more it is concerned with sound tissues, it follows also that measures adapted to improve the general nutrition will increase the efficacy of the strychnia.

The so-called reflex paralyses, which are especially benefited by the administration of strychnia, are probably often due to anæmia of the motor centre; and strychnia, as is well known, produces rather a hyperæmic condition of the cord and motor centres generally, while it also stimulates them to greater activity.

The action of strychnia on the heart and the arterial tension is not, I fear, utilized to the extent that it should be in medical practice. The enfeebled state of the heart resulting from degenerative changes in its muscular structure, and the coincident low tension of the vascular system, are conditions antagonized by strychnia; and it is also a very useful remedy in exhausting hemorrhage, which produces weak action of the heart and low arterial tension. In this connection I find that Dr. Fordyce Barker is in the habit of giving tincture of nux vomica in considerable doses for the arrest of *post-partum* hemorrhage, which is a most appropriate agent, because so exactly antagonistic to the conditions present. Modern experience has also demonstrated the utility of strychnia in the treatment of depressed states of the respiratory organs.

SPASM AND THE PARALYZERS.

The relation in which strychnia stands to paralysis is comparable to that of the paralyzing agents to spasm and cramp. Woorara, which is the only remedy which has apparently exerted a curative influence on hydrophobia, destroys the irritability of the end organs of the nerves in the muscles (while leaving the muscles themselves intact), depresses and suspends the reflex function of the spinal cord, and paralyzes respiration. Hydrophobia gives rise to symptoms in opposition to these; but, unfortunately for the efficacy of woorara in its treatment, the drug varies greatly in composition, while in hydrophobia a peculiar virus is present which does not apparently diffuse out of the throat, but continues in action until death is produced from exhaustion, if not from the spinal effects of the poison. The fact, however, that two well-authenticated cases of hydrophobia have recovered during the administration of woorara affords some ground for hope that, with a more uniform and staple preparation of the remedy, or, possibly by reason of the discovery of some new agent which acts in a similar manner, better results may hereafter be obtained in the treatment of hydrophobia.

No similitude in the action of a remedy and the symptoms of a disease can be greater than exists in the case of strychnia and tetanus, a similitude which extends even to their behavior under the influence of opposing remedies. If tetanus were cured by strychnia, it would afford an excellent illustration of the doctrine of similars; but, as it does not, it serves as a striking example of the fallacies of this ancient doctrine. At least six remedies have been used with success in tetanus, viz.: chloroform by inhalation, chloral, tobacco, or its alkaloid, nicotine, bromide of potassium, physostigma, and gelsemium. Although many of them differ in regard to other points of action, they all agree in the power to diminish or suspend the reflex functions of the spinal cord, and act in opposition, therefore, to this distinctive symptom —an exaggerated reflex sensibility. Hence, in poisoning by strychnia, also, the same group of remedies are indicated.

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In convulsions of an epileptiform type some agents that have a similarity of action, and some that act in an opposite manner, are employed. Picrotoxine may be regarded as a good representative of the former, and bromide of potassium of the latter. The first class stimulate the spasm-centre, but as inhibition results when two impressions coming from different points are made simultaneously on the spinal cord, so here the normal equilibrium is the result when the two impressions produced by the disease and by the remedy act on the spasm-centre at the same time. As the action of picrotoxine tends to produce cerebral hyperæmia, it is obviously indicated in these states characterized by anæmia and depression, while bromide of potassium, on the other hand, is most efficient when the patient is plethoric, and the intracranial circulation too active. During the administration of the bromides in epilepsy, the conditions of the faucial reflex affords an indication of the state of the spasm-centre, Voisin having shown that when no movement is caused by touching the base of the tongue, the pillars of the fauces, and the walls of the pharynx, the effect of the bromide is sufficient. A capital illustration of the antagonism between remedies and the symptoms of disease is afforded in the administration of nitrite of amyl for the purpose of aborting epileptic convulsions. No sooner is a whiff of its vapor inhaled than the arterioles become dilated, a light flush takes the place of the deathly pallor which characterizes the inauguration of the paroxysm, the stage of tetanic rigidity does not come on, and, in short, the seizure which was imminent fails to develop.

The principle of antagonism applies equally to the treatment of chorea, and the most successful treatment is that (whatever may be the measures adopted) which has for its objects the maintenance of a quiescent state of the motor centres and the prevention of those irregular discharges of nervous force which constitute the physiognomy of the malady. In certain neuroses of the respiratory and circulatory organs the phenomena of antagonism are exhibited in perfection, and among those characterized by spasm or cramp, with which we are at present concerned, may be mentioned paroxysmal cough, cough by habit, hiccough, whooping-cough, spasmodic asthma, and angina pectoris, which can only be effectually treated by those remedies which oppose the exaggerated reflex excitability. Taking laryngismus stridulus as an example, we find that an irritation of the sensory filaments of the pneumogastric nerve in the mucous membrane, transmitted to the nucleus, is reflected over the motor branches, and the mucles are thrown into cramp—the result being the resounding cough. In order to prevent this reflex act, such agents as chloral, bromide of potassium, and nauseants, which promptly relieve the spasm, are resorted to, and with entire success. Hiccough or singultus, in which a recurring spasm of the diaphragm is supposed to be the condition, affords a good illustration of both modes of antagonism—by similarity and by opposition. If, as I have already mentioned, a strong and rapidly interrupted faradic current be passed at the moment the spasm is about to take place, it is completely aborted, because the powerful irritation of the peripheral fibres induces inhibition. The remedies acting by opposition, on the other hand, are those which diminish or suspend reflex action, such as the anæsthetics, morphia, the bromides, chloral, and nitrite of amyl. To Dr. Lander Brunton we are indebted for the successful use of amyl nitrite in angina pectoris. Ascertaining that in this dangerous condition there was a sudden and powerful contraction of the arterioles, manifested in pallor of the surface, small, strong pulse, labored action of the heart, etc., he proposed the inhalation of this agent to overcome the contracted state of the vaso-motor fibres.

PAIN AND THE ANODYNES.

The same principle of antagonisms holds good in the treatment of pain. Several elements enter into the composition of the sensation which we call pain —the peripheral irritation, the transmission of the impression to the centre, and its realization by consciousness. Hence, pain may be relieved either by interrupting its transmission to the centres of conscious impressions or by suspending the functions of these centres. For example, aconite and gelsemium relieve pain in the former manner, and the anæsthetics in the latter. The anæsthetics, when applied locally, however, have an effect similar to that of aconite, and are, therefore, antagonistic to both peripheral and centric neuralgia. When a few minims of chloroform are injected into the neighborhood of a nerve-trunk, the peripheral expansion of the nerve is put into an anæsthetic and analgesic condition; and since I brought forward this method of treating sciatica, cervico-brachial and intercostal neuralgia, coccydynia, and other neuralgias of nerves in accessible situations, my experience with it has been extremely satisfactory. The needle must be inserted deeply, since merely to inject chloroform under the skin, like morphia, is perfectly useless in such neuralgias, unless the nerve-trunk is in the immediate vicinity. No danger attends this expedient, and inflammatory indurations and abscesses very rarely result from it. The most powerful means for the relief of pain which is now in our possession—the subcutaneous injection of morphia and atropia together—is an illustration of the advantages derived from the study of physiological antagonism. By this combination the anodyne qualities of the two agents are enhanced, rather than diminished, while the disadvantages of each are in a great measure obviated. The combined use of morphia and atropia is also, as has already been shown, the best preventive of the tendency of anæsthetics like chloroform and ether to produce fatal paralysis of the heart or lungs; while the prescription of atropia simultaneously with chloral to a great extent averts the dangers that sometimes attend the use of that agent.

MENTAL STATES AND THEIR ANTAGONISTS.

Antagonism of a mental state by the action of a remedy implies the fact that the mental is a mere symptom of a physical condition. The antagonism between sleep-producing remedies and insomnia is strikingly exhibited in the action of chloral, while the same agent also antagonizes acute delirious mania and acute mania, when these are not due to unchangeable structural lesions. High excitement, with illusions and hallucinations and great motor activity, is controlled by gelsemium, duboisia, hyoscyamia, conium, and other remedies whose action is similar; while melancholia, with torpid movements and suicidal notions, is antagonized by morphia. Acute cerebral congestion of the active form is counteracted by such arterial sedatives as aconite, veratrum viride, and bromide of potassium; and acute congestion of the passive form by ergot, digitalis, etc.; while cerebral anæmia is removed by strychnia, brucia, atropia, quinia, and other excitants. Hence, it follows that mental changes dependent on these vascular states must be largely controlled by the timely use of the appropriate antagonist. Perhaps, also, those changes which are preparatory to cerebral hemorrhage, or which affect the nutrition of the brain unfavorably, may be retarded and possibly prevented by the early use of such agents as ergot, digitalis, quinia, and chloride of barium.

CARDIAC REMEDIES AND DISEASES.

The most exact antagonism has been shown to exist between remedies which act especially on the heart; and we shall now see that there is a similar exactness in the antagonism between remedies and diseased conditions of the heart. If the action of the heart is excessive from a diminution in the energy of the inhibition, we have agents which oppose this state. In that curious affection, exophthalmic goitre, the action of the heart is constantly much too rapid, and is not infrequently excessively accelerated from the diminution in the inhibitive control of its movements, while the carotid artery and the vessels of the thyroid gland are relaxed and dilated. If the malady is treated by the antagonists to such a condition of the heart and vessels before structural changes occur, it is usually small; and these remedies are galvanism (applied to the pneumogastric and cervical sympathetic), digitalis, and ergot, which increase the inhibition and the vascular tension, and thus substitute a slow and regular movement for the wild disorder of the disease. In some affections, such a strong inhibitive influence descends along the pneumogastric that the heart is restrained and its movements greatly retarded; or, again, the heart may be slowed by agencies paralyzing the accelerative apparatus or the motor ganglia. The excess of inhibition is overcome by such an agent as aconite, which depresses the functions of the inhibiting nerve; while the paralysis of the accelerator apparatus is overcome by the stimulants of the motor ganglia, such as atropia. Palpitation proceeding from irregular and explosive discharges of nervous force coming from the accelerator nerves is best controlled by such an agent as bromide of potassium, and palpitation resulting from paroxysmal loss or depression of the inhibition by such an agent as digitalis. The most important antagonist to states of depression (provided certain conditions are observed) is, undoubtedly, digitalis; but I am convinced that the employment of digitalis in the treatment of cardiac weakness is frequently carried much too far. Digitalis increases the inhibition, slows the heart by lengthening the diastolic interval, stimulates the heart-muscle, and facilitates the passage of blood into the coronary artery by increasing the force of the recoil, while it also raises the arterial tension. Long-continued medicinal doses, however, as well as lethal doses, have been proved to exhaust the irritability of the apparatus on which the action of the remedy is exerted; and the practical deduction is, therefore, that digitalis should be given in moderate doses, and not too frequently, on account of the prolongation of its effects. In the condition of fatty heart the use of this agent is more than doubtful, owing to the fact that it decidedly increases the arterial tension, and thus imposes additional labor upon the heart. With mitral lesions the heart is weak and acts quickly (from relaxation of the inhibition), the arterial system has relatively much less, and the venous system much more, than the normal quantity of blood; the arterial tension is low, and the nervous tension too high. Hence, digitalis, as it opposes these conditions, if employed in the proper manner, is indicated, and can be used with advantage; but, as may be inferred from what has just been said, if it is given too frequently or in too large doses, it will cease to antagonize the symptoms on account of which it was prescribed.

The antagonism between remedies and diseases is well shown in the medicinal treatment of aneurism. If the blood-current is slowed, and the calibre of the peripheral vessels diminished, the blood may be caused to coagulate in the sac, when the clot may organize, and a cure perhaps be effected. When Langenbach learned of the success of Hildebrandt in treating uterine fibroids by the hypodermic injection of ergot, he determined to make trial of the same means in the case of aneurisms. His idea seems to have been that ergot, by causing contraction of the muscular fibre of the aneurismal walls, gradually compressed the sac, and thus effected a cure. It has been urged, accordingly, that ergot injections could be of no service in aneurisms of the aorta, since the latter has no muscular coat; but those raising this objection seem to have forgotten the important fact that the solidification of the sac is produced by the coagulation of the blood within it, as well as that the conditions most favorable to such coagulation are a slow action of the heart and increased tension at the periphery, both of which result from the injection of ergot.

In the arrest of hemorrhage the same principles of antagonism are depended upon. No one now thinks of trusting to opium, acetate of lead, tannin, sulphuric acid, and the medley of ancient astringents. Modern pharmacological research has placed in our hands the most efficient remedies for hemorrhage, which are agents whose action is antagonistic to the conditions from which the hemorrhage results. These conditions are increased action of the heart and relaxation of the vessel-walls, and the most efficient remedies in antagonizing them are ergot, digitalis, bromide of potassium, veratrum viride, etc. In arresting pulmonary hemorrhage the subcutaneous injection of ergotin is the most prompt and certain means at our command, while menorrhagia is usually more speedily arrested by bromide of potassium. These remedies may be given in combination with good effect: bromide of potassium and digitalis by the mouth, and ergotin subcutaneously. The application of cold and heat for the purpose of arresting hemorrhage is based on the same principle. The first effect of cold is to cause prompt contraction of the arterioles; but this is followed by their relaxation. Heat, on the contrary, first causes relaxation, and subsequently, contraction—the latter being more energetic than that which is primarily caused by the application of cold.

RESPIRATION REMEDIES AND DISEASES.

I have already dwelt sufficiently upon the action of those remedies which are employed to antagonize the neuroses of the respiratory organs. As to those which have a depressing effect upon the function of respiration, it will be enough to remark that the only purpose to which they can be applied with advantage is to impose rest on the breathing organs by diminishing the number and force of the respiratory efforts. As regards the agents which stimulate this function, much good results from their timely use. Strychnia, as has been pointed out, is a respiratory stimulant of great activity, and of much value in suitable cases. In the carbonic acid narcosis, which results from respiratory failure in acute pulmonary affections, and in some cases of emphysema and chronic bronchitis, it is antagonistic and undoubtedly of the greatest service; and probably no remedy so generally prevents the reflex nausea and vomiting which occur in phthisis. In capillary bronchitis, when hæmatosis is suspended and carbonic acid narcosis comes on, and in pneumonia when abortive attempts at crisis are made, it seems altogether probable (on theoretical grounds) that the hypodermic injection of strychnia would prove of great service. The utility of strychnia in chronic bronchitis and bronchorrhœa, however, is attested by an immense experience.

But, as a rule, atropia is a more useful respiratory stimulant than strychnia. It is frequently employed in certain neuroses of the lungs, but its greatest usefulness lies in its power to increase respiration when depressed from a variety of causes. Not only does it stimulate the respiratory centre, but it also diminishes the irritability of the sensory nerves of the lungs, and increases the circulation through these organs. In caseous pneumonia, before the process of softening and extension of the caseous matter has begun, atropia frequently has a distinctly beneficial effect upon the local lesions, as well as the general state.

INTESTINAL REMEDIES AND DISEASES.

In the diseases of the intestinal tract the action of antagonistic remedies is well shown. Thus, a serous diarrhœa is promptly averted by the use of belladonna. Opium suspends intestinal movements and stops secretion, and therefore relieves conditions of an opposed kind, viz., diarrhœa and dysentery. Constipation depending on torpor or paresis of the muscular layer of the bowel, is often promptly cured by the faradic current. When the muscular coat is paretic and secretion is deficient, the relief afforded by antagonistic agents is very remarkable; and the appropriate agents opposed to this condition of things are nux vomica, belladonna, and physostigma.

REMEDIES ACTING ON THE SKIN.

In the night-sweats of consumption, atropia, duboisia, hyoscyamia, and other similar remedies antagonize the conditions present, and dry the skin, the value of this treatment being very great on account of the immense loss of material which takes place through the skin. Sometimes the remedies acting by similarity, such as Dover's powder, pilocarpine, and picrotoxine, have a good effect; but their action is much less certain and permanent, and they should never be resorted to in this connection unless the other class of agents have failed. When there is a deficiency in the quantity of cutaneous secretion, sudorific agents may be called for, and the most prominent of these is pilocarpine. Picrotoxine has also some value as a sudorific, but is far inferior to the latter. Local sweating can usually be arrested by the application to the part of belladonna or atropia. The milk-gland being in reality a sweat-gland, with peculiar characteristics on account of its special office, is acted on by antagonists in a manner similar to the skin. Thus, pilocarpine increases the flow of milk, while atropia diminishes or arrests it.

REMEDIES ACTING ON THE KIDNEYS AND BLADDER.

As one would naturally suppose, from the vicarious action of the skin and the kidneys, those remedies which act on the skin are antagonistic to those which stimulate the renal secretion.

A condition of diminished activity of the kidneys is opposed by those agents which have a special diuretic action. Substances excreted by the kidneys and acting as irritants promote the urinary discharge, as copaiba, cubeb, turpentine, etc.; but these are not proper antagonists. Remedies such as digitalis and squill, which increase the pressure in the renal vessels, and also directly stimulate the secretion, are the proper antagonists to the state of diminished activity.

Very admirable results are obtained in vesical irritability by the appropriate and timely use of antagonists. Thus, in the form of this which is usually seen in women, where there is an excessive intolerance of the presence of urine in the bladder (though the mucous membrane is unaffected and the urine unaltered), complete relief is often afforded by the use of tincture of cantharides. The treatment of nocturnal incontinence of urine is most effective when based on antagonism of action, and this affection demonstrates how, in the search for antagonists, we must carefully study the physiological pathology of the disease. If it depends on weakness and relaxation of the sphincter, belladonna and ergot would be the appropriate remedies; if on intolerance of the mucous membrane, bromide of potassium and alkalies; and if on the irritability of the muscular layer of the bladder, such remedies as gelsemium, conium, and chloral would be called for.

Original Communications.

THE MANAGEMENT OF ECZEMA OF THE ANUS AND GENITAL REGION.

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The misery endured by patients affected at all severely with eczema about the anus or genital region can be little understood except by those who have thus suffered, or who have had much to do with those thus afflicted. From the number of these cases which have come under my care, and from their previous duration, I fear that the importance of the disease in this locality is not fully appreciated by the profession, and that the measures which will give permanent relief are not as well understood as they might be. It has occurred, therefore, that a practical consideration of the subject might not be without interest at the present time, hoping that thereby some may be enabled to give relief to many of these distressing cases, whose existence, I am sure, is far more common than is generally supposed. Thus, of 700 cases of eczema occurring in my own private practice, there were seventy-three in which these parts were invaded, or over ten per cent. of the whole number. The records of my dispensary and hospital cases have not been kept with sufficient accuracy to allow of analyzing them in this respect; but, from the very many instances which I have seen in public practice, I think I do not exaggerate in placing the ratio at at least one-tenth of all the cases of eczema. That statistics do not represent the real frequency of the disease is evident, for I know that sufferers from eczema of the anus or genital region often, if not generally, hide their trouble until it is no longer bearable; especially is this true of females. The reasons for this concealment are several. Shame undoubtedly prevents many from exposing disorders of these parts to the knowledge of others. The idea is more or less prevalent that any disease in this region may have some connection with sexual transgressions. Again, many with eczema of the anus imagine that they have "piles;" indeed, cases of this trouble very often pass among the general profession as "itching piles," while, of course, every disease about the anus is thus named by the "pile doctors" to whom these unfortunates often apply. Eczema about the genital folds also often passes for simple chafing, until it is deep-seated and the long continuance of the causes and results have rendered the condition very rebellious to cure. Still another cause operating for the continuance of these cases and neglect of treatment, it must be acknowledged, is the feeling which has long pervaded the people that disease affecting the skin is a special dispensation of Providence, which it is wrong or useless to interfere with, or which will in some way right itself; while, no doubt, there has been also the feeling that affections of the skin were not amenable to treatment to the same degree as are other maladies. Happily, popular and professional scepticism in regard to the success of the treatment of skin diseases is fast passing away before the rapid progress which has been made in dermatology within the last five-and-twenty years, so that this once-neglected department may now be reckoned one of the most certain branches of medicine, if, indeed, it is not the most certain and definite in the matters of diagnosis and treatment.

Eczema of the anus and genital region does not differ essentially from the same disease as manifested elsewhere, and my object in treating of the eruption in this particular location is to call special attention to its frequency, its obstinacy if not properly managed, and last, but not least, to some of the measures which I am constantly using with success in its removal. While, as has been remarked, the disease does not differ in nature from eczema of other parts, there are some peculiarities in its phenomena and their treatment to which it may be well to call particular attention, for the text-books are meagre so far as relates to this special manifestation of eczema.

Acute eczema of the anus is not very common, but is seen more or less frequently on the genitals. Its management generally presents but little difficulty, and differs little, if any, from that of service in a similar state elsewhere. Rest, absorbent powders, or lotions with a powder in them, generally suffice. The present paper has to do with those many cases of chronic eczema where the disease or irritation has lasted for weeks, months, or years.

All degrees and grades of this eruption may be observed in the regions under consideration, and often those cases presenting the least external signs will give the most distress. About the anus we may sometimes have but a slight amount of thickening of the muco-cutaneous surface, with a little purplish congestion and perhaps a few rather superficial excoriations or abrasions in the folds of the opening, and yet the distress with itching and pain may be intense, and prevent or greatly disturb sleep, and even rob the patient of peace and comfort. Or, again, there will be very little to be seen on a scrotum, except some marks of scratching, and, on close examination, only a moderate thickening of the skin is felt on pinching the part, and yet the annoyance or even distress of the itching will be such as to be a real burden to the patient. We may also have much the same state of affairs existing about the female genitalia, and, though not presenting much to the eye, the condition may be the occasion of great suffering. In each of these instances there is a deep sensation of itching, for which they will pinch, or press, or rub, or scratch the part, and even thus can only with difficulty reach the seat of annoyance; nor can these patients by force of will abstain from thus seeking relief.

Many of these cases have been called pruritus, or even prurigo of these parts; but in by far the larger share of cases the real trouble will be found to be an eczema, which sooner or later would or does develop into more characteristic features.

But the really severe cases show, of course, manifold more external signs of the disease, and we may have the entire anal region the seat of a greatly thickened, red, moist, exuding surface. Very often the condition even seems to be only a whitened, soggy state of the parts between the buttocks, the natural furrows in the mucous membrane being deepened, and some few abrasions being seen. This condition gives rise not only to periodical or permanent itching, but even to great pain on sitting, or during defecation. This state may affect the region of the anus alone, or may extend to and involve the entire male and female genital region; or these latter may be affected alone even to a very severe degree without the process extending to the region of the anus.

Eczema of these regions is by no means always associated with eczema on other parts of the body, for in some of the worst cases which I have been called upon to treat there has been no sign of cutaneous disease except upon the anus or genitals, or both, although I have also frequently seen it associated with a similar eruption elsewhere, or with a history of preceding eczema of other parts.

I will not occupy your time with entering upon the exact clinical features of eczema in the locations under consideration, or of the differential diagnosis from other lesions likely to occur here. I will only remind you of the absolute necessity of a correct diagnosis in this as in other diseases of the skin, without which, of course, no management can be successful. This remark is not as unnecessary as it may appear to some, for I have seen a number of cases where quite different states have been regarded as eczema by those who had previously seen the case.

It is well always, as a matter of routine, to eliminate the matter of pediculi pubis, for they may be sometimes found, as also the other varieties of the pediculus, even in the highest walks of life, and may give rise to an itching which closely resembles that of eczema, and the subsequent scratching may cause abrasions simulating this eruption.

Scabies should always, also, be borne in mind, for in males lesions are very commonly found on the penis and scrotum, and it would be quite possible for the manifestations elsewhere to be very light, or to have been removed by treatment while they remained on the penis or scrotum. Or, again, very severe treatment for scabies may have left behind it an artificial inflammation resembling eczema.

One of the most common complications of eczema in the genital region, and also the lesion which perhaps is most often mistaken for it, is the vegetable parasitic eruption, the so-called eczema marginatum, or ringworm of the thigh—tinea trichophytina cruris. As remarked, this may be a separate affection or it may complicate an eczema, and occasionally we observe at one and the same time the characteristics of the parasitic disease: the sharply defined margin, advancing as the surface clears more or less behind it, and the irregular, blotchy patches of eczema near by. The eczema may exist first, and the parasite, finding an appropriate soil, may grow upon it; or the parasitic eruption may be of old date, and the eczema may develop upon it from the severity of the itching and the stimulant applications given to relieve it, or from the scratching itself. Now, unless this parasitic element is recognized and met therapeutically, the case will prove most rebellious.

On a number of occasions I have seen syphilitic lesions about the anus and genital region which had been called eczema and treated as such. I need but suggest this, for the lesions of the two are so markedly distinct when carefully considered that they should never be confounded.

Herpes of the genital organs is more frequently mistaken for venereal ulcers, but may also resemble eczema in a measure, and should always be differentiated.

Finally, many cases of pruritus of these parts undoubtedly do occur which should not be classed as eczema, although, as remarked first, more cases are probably classed as pruritus and prurigo of these regions which are in reality eczema, than there are cases of pruritus which are called eczema wrongly. On several occasions I have seen the pruritus accompanying glycosuria develop an eczema, and I have seen as a further complication a distinct eczema marginatum or ringworm formed later.

This is not the time or place to enter upon an extended study of the nature or causes of eczema in general, nor to give views as to its prognosis. As regards, however, eczema affecting the regions under consideration, I may say that I do not regard it as of local origin, but that it invariably indicates a state or habit of body which, unless it is properly reached, will certainly render the affection incurable. On the other hand, I firmly believe, and know from experience, that if careful, proper, and sufficient care be taken of these cases in every respect, they are most certainly curable, and that permanently; unless, indeed, the patient again transgresses all rules and excites a fresh attack, which need not happen, and which is rare in those who have been faithfully treated. I refer, of course, to the intelligent patients of private practice, for, however valuable public practice is for diagnosis and teaching. far less reliance can be placed on therapeutical deductions there formed than on those obtained by the careful study of private patients.

It will be understood here, however, that I by no means ignore local causes as determining agents in the production of the eruption at any particular place and time, for this is confirmed in regard to eczema of other parts as well. Thus, I have no doubt but that the irritating nature of some vaginal and uterine secretions may provoke a pruritus which may end in an eczema. Also, the perspiratory or sebaceous secretions of the parts in question may perchance be more irritating than usual, or may have been confined and become decomposed, and thus act as a local excitant; a neglected erythema intertrigo may develop into a very intractable eczema. Irritating underclothing, as also bad water-closet paper, may afford the primary cause, and perhaps many other local elements may be of more or less importance, and should, of course, be taken into consideration in the management of the eruption.

But all these—indeed, many local causes may exist in certain individuals and yet never provoke an eczema; and they may even have occurred to the same person on previous occasions and yet have proved innocent. There certainly is some other state or element which requires to be recognized and met in order to give these patients perfect and permanent relief.

The most common single, general symptom observed in patients with eczema of the anal or genital region is constipation, or, as it might be more properly called, imperfect intestinal excretion, generally with faulty liver-action; indeed, this almost invariably exists to a greater or less extent, and requires to be looked for and managed properly. So commonly have I found this in the very considerable number of cases of eczema of the anus and genital region which have been under my care, that I had felt that I could almost state it to be an invariable accompaniment of this condition; but, on going over my notes of cases, I find a certain small proportion in whom it is stated by the patients that the bowels acted regularly once or twice daily. This is not, however, convincing proof to me that the intestinal action was perfect, and I still believe this to be the most important single factor in the disease. Quite possibly the irritating character of the excrement itself is an efficient local cause of the presence and continuance of the eruption.

This imperfect intestinal excretion should be corrected, if possible, and very great care will sometimes be necessary to accomplish this. It is not enough to give occasional purgatives, nor even to prescribe daily laxatives; for, unless much caution is exercised, the ultimate result in this direction may be bad instead of good. These remarks in regard to the management of this important element may seem trite and out of place before this learned body, but I wish to impress the very great importance of dealing with this portion of the treatment rightly as a *sine qua non* of the successful management of eczema of the parts under consideration.

All the elements which conduce to bring about a healthy action of the bowels and organs of digestion must therefore be attended to, and, consequently, in the treatment of eczema about the anus and genitals we must not be content with a few general directions, or the prescription of one or another purgative or laxative remedy. On the contrary, it may require no little trouble to ensure a healthy evacuation of the bowels daily, and this is accomplished by diet, exercise, regularity in attending to the call of nature, and such assistance from medicine as may be necessary.

A very common accompaniment of eczema of the regions under consideration is a greater or less congestion of the portal and hemorrhoidal circulation, manifested by a purplish congestion of the mucous membrane of the anus, or very commonly by a greater or less degree of internal or external piles. These latter may not be sufficient to be recognized by the patient, and yet be an element indicative of the existing state which must be regarded. It is well, therefore, in examining patients thus affected, to have them strain or bear down to bring the deeper portions to view.

When this congestion of the hemorrhoidal vessels exists I almost invariably give the time-honored mixture of precipitated sulphur and cream of tartar, in quantity sufficient to secure one or two loose movements from the bowels daily. I never give it with syrup, as I believe this often ferments or acts prejudicially in the stomach, and in a measure impairs the good effects. I order a mixture of the sulphur and bitartrate of potassa in equal quantities, and direct that from one to two teaspoonfuls be taken at night on retiring, rubbed up with water into a paste. The dose is not a very pleasant one, but it is readily taken, even by ladies.

Where there is no marked hemorrhoidal congestion I employ a pill of two grains and a half each of blue mass and compound extract of colocynth, with a quarter of a grain of powdered ipecac in each pill; two such pills to be taken at night and two on the second night after, followed each morning by a seidlitz powder or Kissingen water. These pills are to be taken only twice, and are not resorted to again at a less interval than a week or two; but they may be thus used repeatedly with good effect.

If there is simply a sluggish action of the bowels, I have had most excellent results to the accompanying eczema from the use of a pill composed of half a grain of the extract of socotrine aloes with a grain of dried sulphate of iron and a little aromatic powder and confection of roses, one pill being taken directly after eating. Very much may be accomplished by this combination in the way of permanently overcoming the constipated habit if the pills are employed regularly and systematically according to the following directions: at first one pill is taken directly after each meal, three times daily; in a few days the noon pill is omitted, and a few days later one is taken after the evening meal only, and soon this is required less frequently, and subsequently omitted. The point to be insisted on is that the pills shall be used regularly in the above manner until the bowels acquire the habit of daily excreting and discharging a normal amount—if they are taken irregularly simply for a cathartic action, no ultimate good results follow; but I can bear testimony very strongly to the value of this plan of treatment, and could adduce many cases where this has constituted one of the chief means of speedy and permanent cure of long-standing cases of eczema of the anal and genital regions.

It is a very common custom with many to give mineral waters to these patients, with the simple direction that they keep the bowels open therewith. In my experience this is an unwise procedure, and I believe that many persons are to-day suffering from constipation and consequent eczema of the lower region because of the constant stimulation of the intestinal tract with these or other purgatives, while the cause of the intestinal inactivity—sedentary habits, over-indulgence at the table, etc.—has been allowed to go on unchecked. I never order mineral waters to be taken for a length of time, and constantly discountenance their use.

Nor is it at all sufficient, in these cases, simply to secure an emptying of the lower bowel by means of an enema, even if employed daily. In my judgment enemata are to be used only very rarely, for a definite purpose, and the habit of a dependence upon water injected to excite the intestines to contraction is worse even than to have them depend upon mineral water poured into the other end of the digestive tube. Nor will an action of the bowels secured by enema at all help an eczema of the anal or genital region; for I have seen some very bad cases of the eruption in this locality where this means of emptying the bowel was practised.

I will not here enter more largely into this subject, which is a prolific one, nor will I detail further remedies which might be of service; but I have dwelt on it thus long because the more I see of these cases the more convinced I am that imperfect liver-action and imperfect intestinal excretion are at the bottom of very many of them. As mentioned before, he will but poorly treat these cases who contents himself with prescribing in a routine manner this or that remedy which has been proposed or vaunted, and he will but poorly manage the intestinal excretion who is satisfied with giving casual prescriptions to loosen the bowels. The physician must give definite instructions to the patient in regard to his mode of life, diet, and hygiene, and must even extend it to securing that the call of nature, though it be light, be answered promptly at a regular time each day, preferably after the morning meal.

Next to imperfect bowel-excretion I would place deficient kidney-action as an element to be regarded in the cases under consideration. The urine of these patients is seldom that of health; the most varied conditions may be reported, but not at all infrequently it is recognized by the patient as leaving a deposit in the chamber and staining the same. Frequent and imperative micturition is not at all uncommon, and the repeated calls to urinate at night and the itching will often act and react on each other, rendering sleep almost impossible.

Most of these cases, therefore, require also an alkali, and I find the best results from acetate of potassa with a bitter, as in the following mixture:

℞. Potass. acetatis.................. ℥ j.
Tinct. nucis vomic................ ʒ ij.
Infus. quassiæ.................... ℥ iv.
M. Teaspoonful after eating, in water.

This is often continued during the entire course of treatment, and frequently for some time after the complete disappearance of the eruption and cessation of all itching.

Not infrequently, however, cases of eczema of the anus and genitals will be associated with a large amount of oxaluria, and will be quickest relieved by the strong nitric acid internally, in doses of about two drops after eating. The well-known mixture of sulphate of magnesia, sulphate of iron, sulphuric acid, and infusion of orange-peel, is sometimes of much service, especially when there is a tendency to sluggishness of the bowels, which does not remain corrected with diet, etc., after a course of the pills mentioned.

In some cases the disease is largely due to simple debility, and iron and other tonics which give life and tone to the system will do the most good to the eczema, often in the way of rendering the processes of assimilation and disassimilation more perfect, whereby the liver, bowels and kidneys share the healthful activity.

These are the main internal remedies of service in this oftentimes very troublesome affection, and if the homely measures I have briefly alluded to are faithfully carried out and combined with proper local applications, they will, I am confident, secure the permanent removal of a complaint which is at this moment rendering many individuals very uncomfortable, if indeed it is not in some cases almost making life a burden.

It will be noticed, perhaps, that arsenic has not been mentioned, and yet I am positive that one-half of the general practitioners would give arsenic at the first visit to one suffering from the conditions under consideration. I will say that I had *not* purposely omitted mentioning arsenic, but that merely it had not occurred to me to speak of it, because, probably, I so seldom use it for these cases. When there is a marked eczematous habit, and when, after all the above measures have been attended to, and others perhaps in the same line, if then there remained a tendency to the disease, I might and do employ it in connection with other remedies, but never as a curative measure at the beginning of the case, and especially never in cases presenting acute symptoms. As a modifier of the nutrition of the skin, arsenic holds a high place among other medicines, but not as a controller of congestion or inflammatory action.

If internal and general measures are important in eczema of the anus and genital region, local measures are, if possible, of even greater importance; it is much not to do the wrong thing, and still more to do just the right thing. This remark is made because one occasionally sees cases which have been greatly aggravated by previous treatment, which yield promptly to proper measures. The main point to be ever borne in mind in the treatment of these parts is that more harm than good may be done by too strong applications, and that the soothing plan must be followed as far as possible, certainly while there are signs of inflammation, stimulating measures being adopted only in later stages of treatment, and to remove the remains of the disease, as thickening of the skin, and not for the arrest of the eczema.

The itching of these cases is often most intense, and the patient will plead that if he can only have something to stop the itching the disease will get well. And so I have repeatedly had cases where all sorts and kinds of measures had been previously prescribed with a view of arresting the itching, but in vain, whereas the case yielded speedily when complete treatment was instituted, including only very mild local measures. Quite recently a physician brought a patient in consultation, not in regard to any general management of the case, but only to have my opinion in regard to the probable utility of applying the actual or galvanic cautery to the parts to arrest the itching. And so I have had cases which had previously been given stronger and stronger local applications, with a view of checking the itching, after the failure of recognized neurotic local remedies, until the parts had been brought to a terrible state of inflammation from such applications as strong citrine ointment and the like. Now, while these may succeed in some cases in which, perhaps, a transient, digestive disturbance was the starting-point of the eczema, I am confident that in the main all such attempts in the way of a local treatment of eczema in these parts is false in theory and injurious in practice.

The measures which I am about to detail may be simple, but will in most, if not all cases, be sufficient as local treatment, provided that all else has been carefully attended to as implied in the preceding brief mention of dietetic, hygienic and internal medication.

I place great reliance upon hot water as a means of relieving the congestion of the parts and the consequent itching. But the water should be indeed hot, and not warm—so hot that the hand cannot be thrust wholly into it—and it should be used in exactly the manner now to be described. I speak thus positively because I occasionally hear it asserted by patients that it is not of service, and on inquiring I find that the exact rules have not been followed, or that it has been used for a longer time or oftener than prescribed. The patient should sit on the edge of a chair and have a basin with the very hot water and a soft handkerchief in it. This latter is then picked up and held in a mass to the anus or genital parts, as hot as can be borne, say for a minute, and then dipped in the water again, and the process repeated three times, the whole not lasting more than two or three minutes; too long bathing, or too frequent sopping of the part or rubbing with the cloth, etc., makes matters worse.

Before the hot water is gotten ready, I have the ointment which is to be employed spread thickly on the woolly side of surgeon's lint, cut of a size to cover the affected parts only, and laid close by ready for immediate use. After the parts have been soaked with the hot water for the prescribed time, they are rapidly dried by pressing a large, soft linen napkin upon them, with absolutely no friction, and the already spread cloths are immediately applied, the object being to at once exclude the air entirely. Ordinarily it is necessary to use the hot water only a single time in the twenty-four hours, namely, after undressing, and when ready to get into bed. It must be premised that the patient is to so manage as not to indulge in the usual scratching before undergoing these manipulations. If this desire is given way to beforehand, the treatment will not always control it at once; but if the patient can avoid even touching the parts except as described, he or she will commonly be quite able to go to sleep immediately. I have repeatedly had those thus afflicted say that the first night of treatment was the first real rest they had had for months or years.

If the case is very severe, and if there are spells of recurrent itching, the hot water may be repeated occasionally; but it is commonly sufficient simply to renew the ointment one or more times in the day, especially in the morning on rising, without the repetition of the hot water, which latter, I think, sometimes acts prejudicially in softening the parts if used more frequently. It should be added that the ointment should always be spread on lint and never be rubbed to the part; also, that in applying the lint it should be kept in close apposition to the diseased surface, and that by means calculated to heat the parts as little as possible; and finally, that in renewing the dressing the fresh cloth should be spread and ready, near by, before removing the previous one, that the access of air to the parts may be prevented by changing the coverings as quickly as possible.

The ointments employed must vary somewhat with the case, and no single one could be mentioned which would be invariably of service. That which I most commonly prescribe is made as follows:

℞. Unguent. picis.................... ℥ j.
Zinci oxidi....................... ʒ ij.
Unguent. aquæ rosæ (U. S. P.).... ℥ iij.
M.

This should be of a consistence which spreads easily and remains soft, which may be easily regulated by varying the proportion of the spermaceti in the rose ointment or cold cream. I may add that I never employ the recent products of petroleum, cosmoline and vaseline, as a basis for these ointments where protection of the surface and exclusion of air is desired, as they have not body enough to remain as a thick coating upon the limb, but rapidly soak in and leaves the parts dry and exposed.

I will not occupy time with further details of ointments, as this is sufficient to indicate the plan or idea of treatment which I wish to present as offering success in the class of cases under consideration; while the ointment is not a matter of indifference, the same result can be obtained I believe by other remedies than the one mentioned, and my case-records would undoubtedly show many others of value. It is the method of employing remedies and strict attention to details which gives success, and I feel certain that the points I have given are very important and will be of the greatest service if carefully carried out.

Brief mention might be made of other applications which have rendered me good service, although, as before remarked, remedies must vary for different cases, and it is beyond the limits of the present paper to detail all that might be used and to give their possible indications. The following combination is very effective:

℞. Unguent. picis	ʒ iij.
Unguent. bellad.	ʒ ij.
Tinct. aconit. rad.	ʒ ss.
Zinci oxidi.	ʒ j.
Unguent. aquæ ros.	ʒ iij.
M. Ft. ung.	

The ointment of chloral and camphor, of each a drachm or two to the ounce, will often prove a very efficient anti-pruritic, as first described by the present writer several years ago.

Lotions are sometimes of much service, especially in eczema of the penis and scrotum, and the following can be recommended:

℞. Bismutha subnitrat.	ʒ ij.
Acid. hydrocy. dil.	ʒ j.
Emuls. amygd.	℥ iv.
M. Ft. lotio.	

This of course must not be used where the skin is much torn or broken.

A word may be added in regard to the employment of stronger local measures, for they are not infrequently of value in proper cases and at the proper time or period in the disease. When congestion has ceased, and there is still some thickening and a tendency to slight cutaneous fissures, we may use the green soap or the compound tincture of green soap.

℞. Saponis viridis,	
Olei cadini,	
Alcohol	āā ℥ j.
M.	

with good effect. With this we need friction, and a piece of muslin (subsequently white flannel may be used to give greater friction) is wet with the lotion and rubbed briskly over the parts for a few moments, which are then to be immediately covered with a mild ointment. For this purpose the ordinary zinc ointment, half a drachm to the ounce of the unguentum aquæ rosæ (U. S. P.), answers well, or the subnitrate of bismuth, or calomel, either in the same strength. We may also use with good effect the unguentum diachyli of the German Pharmacopœia, as introduced by Hebra; but this is apt to be too stimulating for some skins. It is quite as well not to have any tar in these ointments, because, having stimulated with a tarry lotion, the parts need complete rest. We may sometimes obtain excellent results from the use of caustic potassa in solution, used in much the same way, but some caution will be necessary in order not to overstimulate the part. A lotion of five to ten grains to the ounce is all that can be borne in many instances; but if carefully applied, especially by the physician, one of the strength of fifteen, thirty, or even sixty grains to the ounce, may be quickly brushed over the part, and cause an exudation which is followed by relief to the itching and diminution of the disease. These strong applications are to be advised with caution, and care should be taken that soothing measures, as cold-water dressings, are employed afterward.

When the tendency to slight fissures of the mucocutaneous fold still remains, we will have great benefit from touching the latter carefully with a stick of pure nitrate of silver, and afterward packing in a little cotton upon the parts. But I must advise this also with caution, because one of the worst cases of acute eczema of the scrotum and anus which I ever had under my care, and which had confined a gentleman to bed for several weeks, was started up by having an old eczema of the anus thus touched with lunar-caustic by a gentleman of great eminence in the profession; in a case of my own also, there was very considerable inflammation excited by a similar application made by myself, but it passed off in a day or two, and with great subsequent benefit to the parts.

Time does not permit me to go into the subject more fully, though there is very much more which might be said. Eczema about the female genitals presents some features still different from those mentioned, and often proves very rebellious, but is in the main entirely amenable to very carefully directed treatment on the plan of that here detailed, and that in a reasonably short time. When considering the matter of diagnosis, mention was made of the frequent occurrence of a vegetable parasitic eruption about the genital region, the eczema marginatum of former writers, and of the liability of confounding it with eczema of these parts. The rather sharply defined border of the eruption and the tendency to clear in the centre are points which will first attract attention to this tinea or ringworm of this region, and frequently, though not always, the parasite, the same as in tinea tonsurans and circinata, may be made out in the scales by the microscope. When this is determined to exist, we may at once use anti-parasitic remedies, or it may be necessary first to treat the eczema element for a while until the acute inflammation has in part subsided, in the manner previously detailed, and afterward the parasiticide may be applied without causing irritation. The parasiticide which I most frequently employ is the strong, undiluted sulphurous acid, freely bathed on the part, which will give the greatest relief to the itching, and if persisted in will singly and alone cure the case. But, as I have frequently mentioned elsewhere, the sulphurous acid must be fresh (and I always instruct the patient to procure an original, unopened package), for, if used as ordinarily found in the drug-shops, it has altered by constant exposure to the air, and the SO_2 has become sulphuric acid, SO_3, and is of course very irritating and not efficient as a parasiticide.

Eczema of the anus and genitals is not infrequently seen in children, and causes great distress. I have had a number of cases which had been rebellious, but which yielded to the principles already discussed.

In closing this rather elementary and somewhat desultory paper, I have to beg your indulgence for its imperfections. I preferred to present a homely subject in a practical manner, rather than to detail new observations or relate rare cases, because I believe that our province is to cure disease and alleviate human trouble. If, therefore, I shall have assisted any one in managing eczema of the anal and genital regions, which I know to be most distressing to those afflicted with it, I shall be content and shall willingly bear the odium of going over hackneyed ground, and perhaps of presenting much that was already known to some, if not all, of my hearers.

CASES OF PROLAPSUS ANI

Successfully Treated by Hypodermic Injections of Strychnia.

By LEONARD WEBER, M.D.,

NEW YORK.

Nélaton was the first, I believe, to recommend the use of strychnia for the cure of simple prolapsus ani. Whether he or any one else had used strychnia hypodermically for that purpose before I did, in 1868, I do not know.

In that year I was consulted by a merchant, about forty-five years of age, who had suffered from prolapsus ani for three years. It came on after a prolonged attack of dysentery. Not more than one inch of mucous membrane protruded.

It was easily reduced, but as readily came down again. Sphincter very weak and dilatable, but control over bowels satisfactory. At stool he would often lose small quantities of blood, and a slight but constant sero-sanguinolent discharge from the protruded mucous membrane was quite annoying to him. The usual remedies had been applied without success, and to the application of nitric acid, or the actual cautery, I could not persuade him to submit. It occurred to me to inject strychnia hypodermically. Inserting the needle about three-fourths of an inch from the anus, and directing it upward and parallel to the gut, I injected one-twelfth of a grain of the remedy, repeating the injection in forty-eight hours upon the opposite side, and continuing in this way until six injections had been made. The pain accompanying the injection was insignificant, no inflammation or abscess followed, the bowel ceased coming down, and the cure then effected has been permanent.

Case II. (1870).—Boy, eight years old, somewhat anæmic, muscular system poorly developed, had had repeated diarrhœal attacks. His mother said his "body" had been coming down for a long while. Prolapse half an inch. Sphincter very weak and dilatable. I injected one-eighteenth of a grain as above. The relief was complete after eight injections, given in the course of four weeks.

I have lost sight of this patient, and do not know whether the cure has been permanent.

Case III. (1877).—Boy, four years old, healthy and strong; prolapse of three-fourths of an inch, quite reducible, for about a year. Cure after four injections of gr. $\frac{1}{24}$ of strychnia, each given as above. Patient has remained cured.

Case IV. (1878).—Boy, five years old. No organic disease, but rather weak; troubled by frequent epistaxis. Prolapse nearly one inch long, in consequence of dysentery. Has had it for eighteen months, and been unrelieved by treatment so far. Four injections of gr. $\frac{1}{24}$ of strychnia each were made, when the patient ceased coming to the office, and was lost sight of.

Case V. (1879).—Girl, six years old, somewhat anemic, but well developed. Prolapse of half an inch, with considerable sero-sanguinolent discharge from the protruded mucous membrane, and occasional loss of blood at stool. It had existed more or less for two years, and had also followed dysentery. Cure after four injections of gr. $\frac{1}{24}$ of strychnia each. Patient has remained cured.

This was the only case in which I had to etherize the patient, owing to her excessive fear of being hurt. In all five cases the usual local and general treatment, tonic and astringent in character, had been tried without any benefit.

A speedy and permanent cure I know to have been obtained by the injection of strychnia, *in loco morbi*, in three cases. No pain of any consequence was inflicted by the procedure, nor unpleasant symptoms, inflammation or abscess, followed the injections. No such results have been obtained in my practice, in similar cases, by other remedies short of severe surgical measures.

It appears, then, from the record of these cases, that the hypodermic injection of strychnia *in loco morbi*, in cases of simple prolapsus ani, has a direct and rapid effect upon the sphincter muscles, re establishing the physiological tone after comparatively few injections. This mode of treatment is perfectly safe, and apt to effect a speedy and permanent cure.

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Progress of Medical Science.

Extra-Peritoneal Ovariotomy.—W. A. Meredith records in the London *Lancet*, August 21, 1880, the following case as offering an example of a completely extra-peritoneal ovarian cyst. He has seen but one other at all resembling it in nearly three hundred abdominal sections at which he has assisted. Patient, a delicate-looking woman, aged twenty-seven years, gave the following history: Menstruation occurred for the first time shortly after her marriage, at the age of twenty-four; the flow, which was scanty, recurred at irregular intervals during the first two years of married life, but for the last eighteen months she had seen no further signs of it. She had never been pregnant. Shortly after the last appearance of the menses she noticed some increase of size in the abdomen, and was troubled with dragging pains in the left side. This swelling suddenly began to diminish coincidently with the passing of a considerable quantity of clear, pale urine. Six months subsequently the pain and swelling returned, accompanied by considerable discomfort from flatulence. Upon examination the abdomen was uniformly distended by an elastic, indistinctly fluctuating tumor, which extended upward to about midway between the umbilicus and the xiphoid cartilage. Palpation conveyed the idea that the growth was closely adherent anteriorly to the abdominal wall. Fluctuation was at first tolerably evident, but became less distinct owing to increased tension. The percussion note was clear over the epigastrium, the resonance extending downward somewhat below the umbilicus; it was also clear in the right lumbar region, but absolutely dull in the left flank. The girth at the umbilical level was thirty inches. On pelvic examination a cyst was felt distinctly, in front of the cervix. The uterine sound passed in two and one-half inches, and showed the uterus to be pressed backward in the hollow of the sacrum, with much impaired mobility. Diagnosis: "Broad ligament cyst, with very broad and close attachment to right side of the uterus, and extensive parietal and intestinal adhesions in the abdomen." At the operation the cyst was tapped and emptied, and the capsule was then removed in parts with much difficulty, owing to the extreme thinness of the cyst-wall. The short pedicle left included the cut end of the right Fallopian tube. On examination, subsequently, the parts removed were found to consist of an extremely thin-walled multilocular cyst, partly encapsulated in loose connective tissue, and having an enlarged cystic ovary closely adherent to its base. The patient had slight elevation of temperature during the first three or four days after the operation. The sutures were removed on the tenth day, and she left the hospital on the twentieth day. The details of the operation leave no doubt as to the truly extra-peritoneal nature of the cyst, inasmuch as all attempts made to open into the general peritoneal cavity, either by passing the hand upward over the upper margin of the tumor, or by endeavoring to effect an opening through the base of the cyst into Douglas' pouch, failed entirely in effecting their object. When attempting the former procedure, the operator, Mr. Thornton, came upon the cæcum and vermiform appendix completely enclosed in loose vascular connective tissue, and closely applied to the cyst-wall. This condition of things was evidently due to the adhesive inflammatory action set up in its immediate neighborhood by the rapidly growing cyst. Regarding the mode of development of the tumor the following explanation is given: the cystic disease, commencing in the outer end of the ovary, probably gave rise to the formation of a true ovarian cyst, lying at first encapsulated in the cellular tissue between the layers of the broad ligament. In the subsequent course of its growth this cyst, distending the layers of the broad ligament, continued to develop in the direction of the least resistance—viz.: more or less directly outward—until, having reached the seat of reflection of the parietal peritoneum, it gradually opened up the layer of subperitoneal cellular tissue which lies beneath the transversalis fascia lining the abdominal wall.

On the Simultaneous Employment of Calomel and Iodide of Potassium in Diseases of the Eye.—The following are the conclusions drawn by Dr. Schlaefke in a paper with the above title published in the *Archiv für Ophthalmologie:* 1. Where a patient is taking iodide of potassium internally, the local application of calomel to the eyes excites an acute inflammation. This fact was recognized in the past, but has been forgotten. 2. Iodide of potassium, when taken internally, is rapidly disseminated through the organism; it appears rapidly in the different secretions, where its presence can be detected at the end of a few minutes. 3. When the iodide is given in doses of six grains twice a day, it is always found in considerable quantity in the tears. 4. Although calomel is only very slightly soluble in water, it is ten times more soluble in a solution containing 0.75 parts per 100 of chloride of sodium. 5. When dusted on the conjunctiva, calomel is readily dissolved, and exercises a chemical action. 6. If it is thus employed while the patient is taking iodide of potassium, the iodide and biniodide of mercury are found in the tears, and these caustic substances excite inflammation. Hence, it follows that calomel should not be applied topically to the eyes while the patient is taking iodide of potassium.—*La France médicale*, September 4th.

Cancer of the Spleen and Stomach in a Child.—This case was observed at the Strasburg clinic for diseases of children, and Dr. Scheffer, who reports it, expresses an opinion that it is unique. It certainly illustrates the difficulties attending the differential diagnosis of primary gastric cancer from a similar splenic affection. The patient was fourteen years old, and on admission gave a history of nine weeks' previous illness, with pains in the left side. Upon examination an abdominal tumor was found in the left hypochondriac region. Its surface appeared smooth, and the spontaneous painfulness became increased on pressure. There was loss of appetite and vomiting. The vomited matter showed no traces of blood or other abnormal admixture until three hours before the patient's death, when considerable hæmatemesis occurred. During the course of the illness vomiting took place only three times. There was rapid and intense emaciation, with marked cachexia. Symptoms of dyspnœa several days before death. Some pleurisy on left side. Increase in the proportion of leucocytes. Febrile movement of an irregularly recurrent type, and a pulse-rate of 124 to 148. The disease reached a fatal issue after about three and a half months. The diagnosis of splenic cancer was made by the method of exclusion, and the neoplasm was thought to be primary in the spleen. At the autopsy, made by Prof. v. Recklinghausen, an ulcerating encephaloid carcinoma of the fundus ventriculi, with perforation into the spleen, was discovered. The fundus of the stomach was the seat of a large, rounded cancerous ulcer leading into a cavity in the spleen. There were numerous adhesions between the different organs in the neighborhood of the new-growth. The author believes that the secondary affection of the spleen, as revealed by the autopsy, occurred by a growth of the tumor in a directly continuous sense, and not by metastatic transmission through the lymphatic channels. He also calls attention to the fact that the gastric symptoms may, as in the present instance, be so insignificant, as compared with other morbid manifestations, that the diagnosis of cancer of the stomach is made practically impossible.—*Jahrb. für Kinderheilkunde*, September 2, 1880.

The Treatment of Uræmia in Children by Pilocarpine.—From the study of eleven cases, all treated by muriate of pilocarpine, Dr. Praetorius, of Mayence, arrives at the following conclusions: the action of the alkaloid of jaborandi on children may be recognized by active carotid pulsation, reddening of the face, and profuse perspiration, which begins on the forehead, upper lip, and chin, and gradually extends over the whole body. These symptoms appear about three to five minutes after hypodermic administration of the drug. Accompanying the diaphoresis a profuse salivary secretion is observable. In infants the sialagogue action is the more reliable of the two. The temperature is affected only in so far as the evaporation from the sweating cutaneous surface produces a slight secondary lowering. The single dose of the drug is $\frac{1}{32}$ to $\frac{1}{3}$ of a grain (0.002–0.02). The children, as a rule, complain of severe nausea, and vomiting is frequent. Conditions of slight collapse are sometimes noticeable. The following *résumé* of inferences is appended to the paper:

1. The treatment of uræmia by hypodermic use of pilocarpine gives satisfactory results. It appears advisable to resort to this plan of treatment as soon as headache, an irregular pulse, and vomiting point to the probability of renal complications.

2. The contraindications for its employment are: the presence of grave complications, abnormal weakness, collapse, or general cutaneous dropsy.

3. It appears that in "glomerular" nephritis pilocarpine fails to produce a beneficial effect. But as this variety of Bright's disease cannot be differentiated from other forms by our present methods of examination, this condition cannot, of course, be classed with the contraindications.

4. In addition to the diaphoretic action of the muriate of pilocarpine, a direct influence on the renal secretion appears to exist.—*Jahrb. für Kinderheilkunde*, September 2, 1880.

THE STRUCTURE OF THE SUDORIPAROUS GLANDS.—According to Ranvier (*Gaz. de Paris*, 3, 1880), who has reinvestigated the histology of the sweat-glands, their excretory ducts have a double or triple lining of squamous epithelial cells. The cells of the innermost layer are furnished with a so-called cuticula. The secreting epithelia form only a single layer of lining corpuscles, and lack this cuticula, a fact which Heynold has already pointed out. The cells of the glandular portion show granular striæ resembling those of the convoluted renal tubules. Fat molecules normally occur in the cells of the sweat-glands. Alcohol dissolves them, and osmic acid colors them black. The sudoriparous epithelia lack separate membranes, but their free extremities sometimes show a border to which droplets of a colloid substance are attached. The lumen of the glands is continued between the cells, and the minute channels thus formed proceed up to the membrana propria. There is a subepithelial muscular layer, the smooth fibres of which are separated from one another. The protoplasm and nucleus of these elements occupy that side which is directed toward the lumen.

The sudoriparous glands are known to develop from the stratum mucosum of the epidermis, which sends down into the corium epithelial offshoots. By simple differentiation Ranvier believes that the most external of these cells become muscular fibres. In other words, they are said to be derived from the ectoderm. The glandular lumen is not formed by fusion of the central cells of the epithelial process, but by the appearance of the cuticula. The lumen is first seen somewhat above the base of the epithelial pegs, and begins to extend in a direction toward the epidermis, leaving the secreting portion of the gland below it. Later, of course, it reaches this part. —*Schmidt's Jahrb.*, September 27, 1880, vol. clxxxvii.

INSOLATION AT ALGIERS.—Dr. Barbier, of Algiers, has recently studied the subject of sunstroke at Algiers, and communicates his opinions to the *Courrier médical*, September 11, 1880. He believes that insolation is not necessarily the result of direct exposure to the sun, but that it is essentially "*une affaire de thermomètre*." The insolation of hot climates resembles the heat-stroke of veterinarians, viz., "sudden intense congestion of the lungs, intestines, or brain during work." The symptoms, as observed by the writer, were: sudden invasion, the patient being prostrated, stupefied, with blanched face, feeble pulse, slow respiration, and cold, moist skin. Apparently little suffering and complaints of headache only. The attacks often prove rapidly fatal. Sometimes there are pronounced cerebral manifestations, such as acute delirium. Thus, the author has seen two suicides committed after sunstroke. The best curative results have been obtained by Barbier, with the tincture of aconite in daily doses of ten to thirty drops in orange-flower syrup. The action of the drug he finds to be diaphoretic and diuretic.

THE HISTOLOGY OF THE VULVO-VAGINAL GLANDS.—Although the naked-eye appearances of the glands of Bartholin have been adequately described by Huguier (*Mémoire sur les appareils sécréteurs des organes génitaux externes de la femme et chez les animaux. Ann. d. sc. nat.*, vol. xiii., April, 1850), and although Langerhans (*Virchow's Archiv*, vol. lxi., p. 208, 1874), has investigated their histology, yet there were certain points left undetermined. De Sinéty has recently completed a minute research into the structural conditions of these glandular bodies. A communication embodying the results of this examination was read at the *Société de biologie.* He finds that the gland is not enclosed in a distinct capsule, as had been hitherto supposed, but that it is represented by a diffuse collection of small glandular masses, disseminated without regularity and often separated by varying amounts of connective tissue and striated muscular fibres. The secretory lobules have a lining of goblet-shaped epithelium, resembling that found by the author in the cervix uteri. This would explain the similarity of the products of secretion of these two regions. The secreting vesicles (lobules, acini) empty with a constricted portion into sinuses lined with cuboidal epithelium. From these sinuses start the excretory ducts, rather narrow canals, lined with a single stratum of cylindrical epithelia. The common excretory duct shows several epithelial layers, and the cells approach the squamous type as the outlet is reached. This duct throughout its entire extent, almost to its vulvar orifice, shows additional glandules, which open directly into it. These accessory glandular collections are rich in nerves and have an abundant vascularization. The connective tissue of the vulvo-vaginal glands contains many smooth muscle-fibres principally disposed around the excretory canals. Striped muscular elements also form a thick layer both within the gland and outside of it. The author thinks that the existence of acini opening directly into the common duct may account for the formation of certain vulvo-vaginal fistules, with multiple intercommunicating orifices, sometimes observed in inflammations of the gland. He also believes that deep cysts of the inferior third of the vagina, may be developed at the expense of one or more of these disseminated secondary glands.—*Gazette obstétricale*, September 20, 1880.

A CASE OF GANGRENE OF THE UTERUS FOLLOWING OPERATIVE DELIVERY.—Dr. Walbaum, of Gerolstein, Germany, reports the case of a rachitic primipara with contracted pelvis, in whom a protracted operative delivery was followed by gangrene of the uterus, with an ultimate cure after complete loss of the organ. The patient was twenty-six years old, and had a pelvis measuring two and a half inches in the conjugate diameter. She was first seen when pregnancy had already advanced to full term. The uterine contractions were almost entirely lacking, and the child was dead. With the greatest difficulty the fœtus was delivered piecemeal, and the maternal parts were unavoidably bruised and lacerated. The operative manipulations lasted almost eight hours. On the two days following this procedure the patient's temperature was subnormal. Then, with the development of peritonitis, it rose to 105°. About two weeks later portions of necrosed uterine tissue of penetrating fetid odor began to be discharged per vaginam. Large lumps, some of which retained the outline of the womb, continued to pass away. These discharges lasted about three weeks, the patient meanwhile suffering from hectic fever and absolute incontinentia urinæ. There was, however, no vesico-vaginal fistula. Irrigations of the genital canal with a three per cent. aqueous solution of carbolic acid were continuously employed. No internal medication. Some four weeks later the condition of the patient gradually improved. The febrile movement slowly subsided with the appearance of a less fetid and more purulent discharge. Finally the only remaining symptom was incontinence of the bladder. Vaginal exploration now revealed loss of the uterus, the impinging finger coming upon hard tissue at the vaginal termination. A minute opening was still found at the upper end of the vagina, and a sanguinolent discharge continued to occur. It was not ascertained whether or not the ovaries had also been destroyed by the morbid process. The writer thinks it a remarkable fact that the patient bore this extensive and severe disease so well, comparatively, being now able to walk long distances without other discomfort than that which is due to the persistence of the vesical incontinence.—*Allg. med. Cent. Zeit.*, September 18, 1880.

Amyloid Degeneration.—The pathogeny of this morbid process has been made the subject of recent extensive investigations by Prof. Eberth, of Zurich (*Virchow's Archiv*, vol. lxxx., p. 138). The most important result of his investigations has been to show that this infiltration does not, as was generally held to be the case, affect the most heterogeneous histological elements, but is confined to the tissues belonging to the connective-substance group. Thus, the glandular epithelia, muscle-cells, etc., are not invaded by the amyloid material. Wherever and whenever the parenchyma appeared to participate in the change, it was ascertained to have merely undergone simple atrophy, from the pressure of the encroaching amyloid masses deposited in the blood-vessels or connective tissue. The true parenchyma of the affected organs is never destroyed by secondary amyloid infiltration or degeneration of its constituent elements. The morbid process originates in the capillary adventitia, the basement substance of connective tissue, the stroma of the liver, the membranes of the renal tubules, the internal perimysium of muscles, in the reticulated tissue of the lymphatic glands and the spleen, and the tissues corresponding to these structures.—*Centralblatt f. Chir.*, September 18, 1880.

A New Method of Operation for Ranula.—Dr. Krabbel (*Centralblatt f. Chirurgie*, No. 37, 1880) reports the successful operation of a large sublingual cyst by a method not hitherto described. It is well known that, apart from complete extirpation, the ordinary methods, such as puncture, the injection of irritant fluids, partial excision, etc., by no means always result in a complete cure. Krabbel recently had occasion to observe a large ranula, in which previous remedial measures had been unsuccessful. He adopted a plan of operative procedure which was suggested to him by a consideration of Volkmann's method of radical operation for hydrocele. Accordingly, the sac of the cyst, which formed an externally visible prominence, was exposed by an incision from without, and an oval piece of its wall excised. The cyst-wall was now united by silk sutures with the integument; then a second piece was incised from within, and the walls similarly united with the buccal mucous membrane. A drainage-tube was inserted, and carbolic irrigation practised. All the dressings were antiseptic. Eight days later the drainage-tube was removed, and the wound soon closed by granulation, the collapsed cyst-walls becoming united by adhesive inflammation. The external cicatrix was quite inconspicuous, and internally there only remained a little hardening to indicate the site of the former cyst.—*Allg. med. Cent. Zeit.*, September 22, 1880.

Milk Diet in Heart Diseases.—Prof. Potain concludes a somewhat lengthy paper on this subject as follows: The "*régime lacté*" is particularly efficacious in secondary cardiac disease, that is, in simple hypertrophy or dilatation of renal or gastric origin. In one case the milk diet favorably alters the condition of the kidneys, and in the other the gastric state. But in order to give these organs the needed repose, it appears essential to make the milk diet absolute and to prolong it for a greater or less length of time. A good action of this regimen is also observable in those cases of simple reflex palpitation, which depend upon gastric disturbance. In dropsy accompanying secondary renal lesions, the diuretic action of milk may act advantageously. This exclusive milk diet can, however, be persisted in only when the system readily tolerates it.—*La Tribune médicale*, September 19, 1880.

Subungual Sarcoma of the Fingers.—Dr. P. Kraske reports a case of this kind, which was observed at the clinic of Prof. Volkmann. A woman, forty-two years old, came to the clinic, stating that the nail of the middle finger of her left hand had been the seat of painful sensations for about twelve years. She further said that four years before that time it had been severely bruised. The substance of the nail had been scraped away above the spot of greatest tenderness, but this and other measures had afforded her only temporary relief. About the central part of the nail a blue spot was seen to shine through from the matrix. On pressure this proved exquisitely painful. A subungual tumor was diagnosticated, and the tip of the finger removed. The wound healed kindly, and the patient was discharged after a few days.

A close examination of the tip, after ablation of the nail, showed a little hard nodule, which extended down to the bone, was inclosed in a fibrous capsule, and had, on section, a grayish white appearance. This little tumor was found to belong to the group of neoplasms, which Kolaczek (*Deutsche Zeitschrift für Chirurgie*, vol. ix.) has described as angiosarcomata, and which have been variously called cancer, cylindroma, siphonoma, tubular cartilaginous tumors, etc. This author, it will be remembered, found the following to be characteristic of such growths: a reticulated arrangement of cellular groups, sometimes enclosing vessels, the epithelioid form of the cells, and an incipient hyaline degeneration. In his *Beiträge zur Chirurgie*, Prof. Volkmann has called attention to the subungual origin of such malignant growths, and it was a knowledge of his previously described cases that led to the early operation in this instance. Volkmann's former cases were all of an excessively malignant type, and proved rapidly fatal in spite of repeated operations.—*Centralbl. für Chir.*, September 18, 1880.

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THE INSANE ASYLUM INVESTIGATION.

The work of the Senate Asylum Committee in this city ended on the 9th inst. In our last issue we gave the principal facts testified before it, and not very much of importance was contributed after that report. A great deal of attention was excited by the evidence given, and a large space was devoted to it in the daily papers. One of the most important objects desired by the reformers, therefore—that of enlightening the public as to the facts in the case—was accomplished.

Testimony was given by more or less expert witnesses on both sides of the question. This testimony furnished very little that was really new to those acquainted with the facts of the controversy. The old charges were reasserted, and were for the most part sustained. All that can possibly be claimed by the opponents of the reform movement is that they showed the fact of a considerable improvement in the New York and Kings County Asylums during the past two years.

On the other hand, the facts of overcrowding, poor diet, poor attendance, insufficient employment, political influences, etc., were very clearly demonstrated.

There were some special controversies developed during the investigation, which made the meetings more lively, but did not increase their value. The committee concluded their work by a tour among the asylums on the islands. It should be said of its members that they seem to be investigating the subject assigned them with intelligence and impartiality. If this is the case, the evidence collected during their two weeks' stay in this city can hardly fail to show them the very great need of reforms in asylum management.

And we beg to suggest to the committee that such reforms, speaking generally, should be in the following directions:

First.—The separation of the acute and chronic insane.

Second.—Making the asylums for the acute insane more, in spirit and management, like ordinary general hospitals.

Third.—Severing politics from the medical or executive management of the asylums.

Fourth.—Establishing a lunacy commission which shall secure a thorough central state supervision and control, and which shall be the medium of ensuring protection to the rights of the insane, as well as of keeping the public clearly informed as to the condition of its unfortunate wards.

If any radical reform is undertaken, it must be in one or more of the above directions. It is scarcely possible that the committee will not see the necessity of some attempts at improving the present status of affairs. The cry of the superintendents and office-holding politicians, that all is as well as it can be under the circumstances, will not answer; it will not satisfy the demands of intelligent citizens.

PRIMARY CANCER OF THE LUNGS.

At the recent meeting of the New York Pathological Society, as will be seen from our report elsewhere, a very interesting, rare, and instructive specimen was presented of primary infiltrating cancer of the lung. The gross appearances, which resembled pneumonic tissue in the stage of gray hepatization, were quite satisfactorily exhibited. The patient's clinical history, as communicated by Dr. Ripley, in whose service at the St. Francis Hospital the case came under observation, showed anew the difficulties attending the diagnosis of this uncommon affection. Doubtless the discovery of a circumscribed area of dulness or flatness in the infraclavicular region of one side would strengthen an already existing suspicion of pulmonary neoplasm. But in the absence of other pronounced symptoms, both local and constitutional, this *per se* would be clearly insufficient to establish a legitimate diagnosis. The rapid supervention of sanguinolent pleuritic effusion was likewise inadequate to fully confirm even a rising conviction of the presence of malignant pulmonary deposit. Nor would the absence of bulging at the intercostal spaces furnish any additional clue to the existence of such disease.

It appears, therefore, that in its clinical aspects the case before us only corroborates previous experience, showing that pathognomonic symptoms of pulmonary cancer do not exist, or, at all events, are not yet known to us. Thus, while it may happen that a chain of suspicious morbid manifestations may point to the probability of cancer, the fact remains that positive evidence of its existence is, as a rule, obtained only by post-mortem examinations.

In the present instance, the pathological report of

Dr. Wendt would make it appear probable that the disease started in the upper lobe of the left lung and then spread to the other lobes, and, finally, also invaded the entire right lung. In his remarks upon the case Dr. Wendt called attention to the probability of extension along the lymphatic channels, as demonstrated by the presence of a subpleural network of lymph-vessels containing epithelial corpuscles. Whether or not the endothelial lining of these vessels remained intact was not stated, though this would appear to be a point of great interest. This lymphatic transmission was also alluded to in the light of affording a possible explanation of the extreme rapidity of the cancerous invasion. Finally, it was pointed out that, apart from other things, the presence in both kidneys of miliary carcinomatous deposits constituted the case an exceptional one.

In glancing over the literature of this subject, we are at once struck with the paucity of well-observed cases of primary cancer of the lungs. In 1878, Reinhard (*Arch. für Heilk.*, xix., p. 369) published a statistical report, embracing the record of only twenty-eight cases, collected from various sources. In all these cases of primary cancer only one lung was affected, eighteen times the right lung, and nine times the left one. Moreover, the bronchial glands were generally the seats of cancerous deposits. As a rule, extension took place in the direction of the bronchial tubules, or along the vascular sheaths. Symptoms of pathognomonic importance were not ascertained. In suspicous cases, however, it was thought that enlarged supraclavicular glands might become characteristic.

One of the most perfectly observed cases on record was made the subject of a separate thesis by Dr. Schottelius, first assistant to Professor Rindfleisch. In this case the participation of the lymphatic vessels was so conspicuous that the pathological condition of the lungs was denoted by a special name, viz., "lymphangitis carcinomatodes." It would appear that Recklinghausen was the first to call attention to the plugging up of lymphatic vessels with cancerous corpuscles. But his investigations were made in connection with cutaneous epithelioma. Cornil (*Gaz. méd. de Paris*, 1877, No. xii.) also described a case of cancerous implication of the lungs, due to transmission along the lymph-channels. From the observations of Hanot (*Arch. gen. de méd.*, 1877), Rabasté (*Thèse de Paris*, No. 295), Potain (*Gaz. des hôp.*, No. 45, 1877), Darolles (*Thèse de Paris*, No. 340), and others, no positive conclusions as to the frequency of this mode of extension can be drawn. But the fact remains that this is one of the ways in which cancer of the lungs spreads, and the case which suggested these remarks would make it appear probable that when the lymphatics are thus involved the extension of the neoplasm is a very rapid one.

The detection of cancer of the lungs during life it seems, therefore, is always difficult, and often impossible. Nor does it appear that its recognition could be regarded as more than a triumph of scientific diagnosis, for our chances of successful treatment would not be likely to be enhanced by a knowledge of its presence. Nevertheless, the pathological interest in cancerous neoplasms of the lungs will continue to exist despite the impotency of our therapy to effect more than the palliative improvement of existing symptoms.

SHALL WE HAVE A SANITARY SUNDAY?

It has always been the purpose of the Record to encourage in every way the development of sanitary science. It has been recognized from the first that prevention is to form a large and essential part of the medicine of the future. We shall not be misunderstood, therefore, if we at times protest against some of the exaggerations into which those affected too deeply with the sentiment of *sanitas sanitatum* occasionally run. Such exaggerations inevitably lead to a reaction, which *Punch* has recently given expression to in one of his cleverest lyrics:

> "*Sanitas sanitatum*
> Is all very fine,
> But my *ultimatum*
> Is this—I must dine."

Our esteemed contemporary, the *New York Times*, has recently had a touch of the hygienic afflatus, and argues very ably for a "sanitary Sunday." It advises that persons, having perhaps devoted an hour or two to religious exercises or moral reflections, spend the rest of the day in getting themselves as healthy as possible. Sunday, it is said, is the workingman's day for bringing back to a normal equilibrium the functions perturbed by his week's work.

Now, it will probably surprise the sanitarian to learn that health can be greatly promoted by devoting only one day in seven to its pursuit, for it has been generally taught heretofore that the only way to keep in good physical condition is to adopt a well-ordered life all the time. And the tendency of a knowledge that there is a day whose special function is rejuvenation would be, we think, to furnish to it the conditions requiring rejuvenation. Among a very large class, the Saturday night debauch would be thought a legitimate initiation of the sanitary Sunday, for the children of darkness are still in a decided majority, and the desire to lead a sanitary life is a very slight incentive for them to lead a moral one.

In England, Professor Tyndall has been advocating sanitary Sundays with that same pleasing eloquence which some time ago gained for him, in a few weeks, a popular reputation as a great authority on all the arts of disease-germs. But in England, if we may believe reports, the workingmen, when left to the impulses of their "humanity," generally get drunk Saturday night and stay so until Monday.

We do not believe that workingmen, or even people of higher classes, whether in England or this country, can be made to appreciate the beautiful utility of a sanitary Sunday. When released from work, the tendency is, as a rule, not to hygiene, but to pleasure; not to oxygen, but to beer. Societies for ethical culture may eloquently demonstrate the sweet reasonableness of remaining in a sober and sanitary condition; but neither sanitary precepts nor a dilettante religion can prevent the people, if otherwise unchecked, from turning the professed "sanitary Sundays" into grand festal days—which are not hygienic institutions.

We do not wish to be understood as advocating the Puritan Sabbath, and it is no part of our work to discuss theological points. We simply do not believe that it would benefit the health of the people to have the word "sanitary," or the idea of sanitation, so prominently associated with Sunday. If a man has those motives of conduct which cause him to lead a correct life, he will be likely to lead a sanitary one. Hence, the time spent in inculcating those motives is, indirectly, health-giving. Health, on the other hand, though intimately connected with right conduct, is very far from insuring it; and the desire to be healthy, we repeat, has very little power among those who would take the most advantage of a "sanitary Sunday." Let there be healthy relaxation, and even innocent recreation, if need be, on that day. But we would have something higher than "sanitation" associated closely with it. We have one national wash-day on Monday; there is no need of two.

PROGRESS OF DIPHTHERIA AND SCARLATINA.

We took occasion, in a previous number of the Record, to call attention to the prevalence of contagious diseases, and notably of scarlatina, diphtheria, and small-pox, in this city. Nor have these diseases, since we noticed their increase, shown any tendency to abate, either in the number of cases or in the proportion of deaths. For the week ending December 4th there were one hundred and fifty-one cases of scarlet fever, and one hundred and sixty-seven cases of diphtheria reported; while, for the succeeding week, the numbers were one hundred and eighty and one hundred and sixty-six respectively. It will thus be seen that the former disease is still spreading, while the latter maintains the high figure which had previously been attained.

In view of the great prevalence of these diseases, a special investigation was made by the health authorities, to discover whether defective hygienic conditions played any very marked part in the etiology, and the result was far from satisfactory, as tending to prove any constant relation between contagion and bad sanitary conditions. Both sanitary physicians and sanitary engineers agreed that the houses which they had especially investigated, because of their having been the seat of many cases of diphtheria, were, hygienically speaking, rather above than below the average; and in many of them the arrangements were such that they could not be improved upon with our present knowledge. It was possible that unsanitary surroundings might have tended to increase the severity of the disease, when it did occur; but even this fact could not be said to have been demonstrated.

Every physician has met, in his practice, with many cases in which foul gases were the only assignable cause of contagious diseases. The emanations from decomposing animal and vegetable matter have been regarded, at various times, as the agents in producing many disturbances in the human economy. Gradually, as research has been carried on more scientifically and rigorously, this theory of their origination has become more and more circumscribed, until to-day it is only believed to apply to diphtheria, typhus, and, perhaps, typhoid fever. We shall not attempt to discuss this very important and much-argued subject here, but, until the question is decided, beyond the shadow of a doubt, the duty of the physician in the matter is clearly to take no risks. He should inquire into and, as far as possible, make a personal investigation of the sanitary condition of the premises. This should include the dryness of the cellar, the purity of the water-supply, the appliances for the prevention of the escape of sewer-gas, and the inoffensiveness of the privies and water-closets. Granting that sewer-gases alone are not capable of producing the disease, still it is quite possible that they should be the means of conveying the germs or *materies morbi* in some form or other. But, on the other hand, whether he has found the hygienic conditions as they ought to be or not, the physician should not rest content in the belief that here is the sole cause of trouble, or that the air is the vehicle of contagion. He should endeavor to discover, by a vigorous search, where the disease came from, and in some cases the knowledge thus gained will be of advantage in preventing the same cause from operating again. Isolation and disinfection should be practised as thoroughly and completely as circumstances will permit; and where, as in scarlatina, the desquamated skin is supposed to be the carrier of the disease, it adds not only to the comfort of the patient, but also to the safety of those around, to anoint the patient with some oily material, which shall render the scales heavier and prevent them from flying about.

We would continue to call attention to the responsibility of the physician in regard to vaccination. During the week ending December 11th seven persons died of small-pox in this city, all of whom had either never been vaccinated, or had not been for a number of years. When it is remembered that variola depends solely upon contagion, and that the means of prevention are at our command, simple and almost entirely free from danger, no one can hold a physician quite free from blame in the family of whose patients a case of this disease occurs.

DIPHTHERIA FROM THE TRACHEOTOMY-TUBE.

We are again called upon to record the death, from diphtheria, of a member of our profession, who contracted the disease during the performance of tracheotomy upon a diphtheritic subject.

Dr. Sandford B. Hunt, of Greenpoint, N. Y., was the victim. The simple, but suggestive story of his attack is that a tracheotomy-tube, which he had been using upon his patient, became choked up, when he cleared it by placing it to his mouth and blowing through it. There is so much of melancholy regret about such occurrences that it is liable to swallow up every other feeling. But there are other aspects in which to view the question. It is high time that we stop to consider the lesson which the present case affords. Although we are taught almost from our medical cradle never to be backward in "hazarding life in the performance of professional duty," it sometimes behooves the physician to consider whether the end aimed at always justifies the means. We contend that it does not, in a desperate case of diphtheria, where the positive chances of infection from such a cause as stated are taken into account. It is not the duty of a medical man to jeopardize his valuable life against any such odds. The motive is a laudable one, which, on the spur of an emergency, would make the surgeon forget everything but his patient, but in being actuated by such a motive, he is not expected to be foolhardy. It must be admitted that the prompt clearing of a tracheotomy-tube is very important, but there should be other ways of doing it than by the direct application of the surgeon's mouth. A simple apparatus for the purpose should be as indispensable to the surgeon in such cases of tracheotomy as the tube itself. In these days of surgical invention, it seems strange that no suitable instrument for such a purpose has been made. The necessity for it is emphasized every time a new death occurs from blowing into a poisoned tracheotomy-tube. The mourning for Dr. Hunt is invested with a peculiar sadness in that his death might have been prevented.

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☞ Bacteria in the Air.—The average number of bacteria in the air, according to Dr. Miguel, is about 200 per cubic metre. This number is diminished in winter, increases in spring, reaches its height in summer and the first part of autumn, and rapidly diminishes during frost. There are, however, in addition, various paroxysmal variations in the number of atmospheric bacteria. And we are told that every increase in the bacteria of the air is followed eight days later by an increase in the deaths from contagious and epidemic diseases.

Reviews and Notices of Books.

Practical Lithotomy and Lithotrity; or, an Inquiry into the best Modes of Removing Stone from the Bladder. By Sir Henry Thompson, F.R.C.S. 8vo. Philadelphia: Presley Blakiston.

Certainly no man now living is better able to speak, and speak with authority, of the subject of which this work treats than its distinguished author; not only from his very extended experience, but also from the eminently scientific character of his mind—the ability to weigh facts, or alleged facts, and to decide as to their value, both absolute and relative. The book, as its name indicates, is a practical one; no time is expended and no space is taken up with the consideration of the causes, symptoms, diagnosis, etc., except as, incidentally, mention is made of them in connection with the operative procedures which constitute the author's theme. After defining the terms lithotomy and lithotrity, the author devotes the first part of the work to the consideration of the former, bringing all the operations under two heads: those by which the bladder is reached through the perineum, and that by which it is reached above the pubes; and the first class he again divides into lateral and central. In taking up the anatomy of the parts concerned, the outlet of the male pelvis is compared neither to a triangle nor to a lozenge, but to the conventional ace of hearts, with the apex upward. After the usual dissections have been described, the reader is reminded of the direction in which he can cut with the greatest impunity, and of the parts particularly to be avoided.

Chapter II. begins the consideration of lateral lithotomy, with a description of the instruments, assistants, and other aids essential to the proper performance of the operation; and among the former, the air-tampon, consisting of an inflatable rubber bag attached to the drainage-tube, by the expansion of which an even pressure is obtained for the arrest of any hemorrhage, after the operation, beyond the reach of the ligature. The question of the relative usefulness of the scalpel, the probe-pointed knife, and the gorget is discussed, the preference being given to the former on the score of ease and simplicity, unless in exceptional circumstances. The position of the patient, the incisions, and the other steps of the operation are next described in the usual manner, especial stress being laid on the necessity of slow and cautious action in withdrawing the forceps, the importance of which "it is quite impossible to overestimate." In the after-treatment, the author does not give opium as a matter of routine, but only if the symptoms seem to call for it; and the question of the use of a tube is left open.

In Chapter III. the central operations are described, including the bilateral, medio-bilateral, median, and recto-vesical. The combination of lithotomy with lithotrity is one which the author thinks will not likely be necessary, since lithotrity has been so much improved. The subsequent chapter describes the supra-pubic operation.

Chapter V. takes up the causes of death following lithotomy, and adults are considered separately from children. Those affecting adults are divided into those arising from error or accident in the performance of the operation, and those arising from other circumstances, particularly the constitution of the patient. Infiltration of urine is shown to be by no means the bugbear commonly supposed, the bad results generally attributed to it being, in the author's opinion, due to "violence in opening up the internal part of the wound, and laceration of the tissues there." Attention is again called to the importance of slowly and gradually dilating the neck of the bladder and the incisions. In children, the greatest number of deaths are found to be caused by peritonitis and exhaustion.

Chapter VI. discusses the difficulties and dangers met with in lithotomy. The former are considered under three heads: those peculiar to the patient's age, those peculiar to the subject, and those peculiar to the stone, and under the last heading the processes of breaking the stone are described. The non-fatal accidents are then discussed, as well as the manner in which they may be avoided or remedied.

But probably the most interesting portion of this part of the work is Chapter VII., on the results of lithotomy. The average of the past for all cases would seem to be about one death in every eight and a half cases. But, below the age of sixteen, the deaths are one in fifteen and a half, above that, one in five. But for the future, since the great improvement in lithotrity, the figures will have to be changed; and, as the result of his experience in five hundred carefully recorded cases, the details of which are given in a copious appendix, the author finds that he has lost one in every two and three-quarter cases by lithotomy, and one in rather more than thirteen by lithotrity. The worst cases, especially those of large stones, were lithotomized.

However much we may admire the clearness, fairness, erudition, and moderation of the first part of the work, we are more interested in the second—that devoted to lithotrity. The bearings of lithotomy are generally understood and well defined, except in its relation to lithotrity; but the latter subject opens up a field which may still be described as new. After a brief historical survey of the growth of the operation and of preliminary treatment, in which he prefers as a demulcent the decoction of the unground stems of *triticum repens*, the author, in Chapter IX., defines the objects of lithotrity and the principles on which instruments should be constructed. And, on what seem to be good grounds, he thinks his own instrument fulfils the indications most fully.

After this introduction, the steps of the operation are described in Chapter X.—the best position of the patient and of the operator; the method of introducing the instrument, of seizing and crushing the stone, and of removing the fragments and débris. Injection of the bladder is not considered necessary, and slow, slight, and deliberate movements of the instrument are again impressed on the reader.

Chapter XI. is on lithotrity at a single sitting, as Sir Henry Thompson prefers to call litholapaxy. While giving due credit to Prof. Bigelow (of *Harvard* (?), United States), he thinks that experience was gradually tending in that direction, especially since the introduction of the aspirator of Clover. He objects to Bigelow's instruments as unnecessarily large and clumsy for at least three-fourths of the cases; and gives the details of his own thirty-five cases, all of which have been successful.

In the complications of lithotrity, stricture of the urethra is shown to be not so formidable an obstacle as generally supposed, as it may in most cases be overcome by continuous dilatation. In estimating the results of lithotrity, in Chapter XIII., the difficulty of the study of this part of the subject is pointed out, on account of the great improvement which has taken place within late years. While not endeavoring to detract from the glory of Civiale, the author rejects his conclusions as biassed by his prejudice. A correct estimate can only be made by regarding the age of the patient and the size of the stone in each case. In considering the causes of death in his own 32 fatal cases out of 422 operated on by this method, he finds nephritis, pyelitis, and cystitis the most frequent. He concludes that the danger is in direct ratio to the size of the stone, and that for those smaller than a nut the operation is almost free from risk.

The concluding chapter, XIV., is on the choice of proceeding. This may, the author thinks, in most cases, be decided by the age of the patient, but that, before any decision is reached, the size, form, and nature of the stone should be made out. From birth to fourteen years, lithotomy is, in almost all cases, the best operation; above twenty, lithotrity is, under ordinary circumstances, to be preferred; from fourteen to twenty the choice must depend upon local conditions. In healthy adults, if the stone is of medium size or smaller, it should be crushed; if it is large, the lateral operation will generally be best. In feeble patients with no urinary disease, lithotrity is preferable; in cases complicated with obstinate stricture of the urethra, lithotomy is more advisable. In view of the increased danger arising from the fact of the stone being large, the author draws the important practical conclusion that it should be recognized as early as possible.

Viewed as a whole, the work must be regarded as eminently scientific. Facts are closely scrutinized and clearly arranged, and deductions are logical and free from prejudice. However much future investigation and experience may alter or overthrow portions of it, up to the present time it comprises the results of wide experience in a condensed and tangible form.

THE MEDICAL RECORD VISITING LIST OR PHYSICIAN'S DIARY FOR 1881. New York: Wm. Wood & Co.

THE RECORD Visiting List, besides enabling the physician to record in easily accessible form his daily and weekly business, contains many facts which will be found useful to have on hand at short notice. It is printed on strong paper, with gilt edges, and is bound in durable leather. It is furnished with a pocket and pencil and with a scale of sounds, both according to the French and English methods. It is not so small as to render the use of unintelligible hieroglyphics necessary, nor yet so large but that it can be conveniently carried in the pocket.

THE PHYSICIAN'S VISITING LIST FOR 1881. Philadelphia: Lindsay & Blakiston.

THE fact that the issue before us is the thirteenth annual edition is *prima facie* evidence that this visiting list has met and maintained the confidence of the profession. Nor need we seek far in order to discover the reasons of its popularity; it is neat, compact, and durable, contains a great deal of useful information in a readily accessible form, and, with a little ingenuity on the part of its owner, it can be made to serve the purposes of a day-book, journal, and cash-book in one. At the end of the year, whether he see twenty-five or fifty patients weekly, the physician can see, almost at a glance, his annual business, as well as how the accounts of his various patients stand.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 24, 1880.

DR. T. E. SATTERTHWAITE, PRESIDENT, IN THE CHAIR.

RECURRING UTERINE FIBROMA.

Dr. Post presented a fibroid tumor which had been removed by operation from the posterior lip of the cervix uteri. The patient was between thirty and forty years of age. The special interest in the case was the return of the disease. Seven years ago she entered the Woman's Hospital and a tumor was removed from the posterior lip of the cervix. Three years later the growth reappeared in the same situation, distending the vagina and completely filling the pelvis. In this condition she entered the Presbyterian Hospital. The tumor was of such enormous size that Dr. Post was unable to remove it except by preliminary disintegration by the actual cautery, and the final use of the ecraseur to the stump. She left the hospital in the course of a couple of months after. A few weeks since she sought advice for an intestinal trouble, and, among other things, stated that since the operation four years ago she had been the subject of a slight mucous and bloody discharge. On examination a tumor the size of a duck's egg was discovered attached to the original site. The operation was performed November 24th, by drawing down the uterus and including the mass in the loop of a wire ecraseur. After the main growth was removed it was necessary to take away smaller masses. A removal of the portion of the posterior lip of the cervix to which the tumor was attached was contemplated, but it was found impossible to bring down the uterus sufficiently low for the purpose. Another difficulty was the impossibility of defining the outlines of the growth, as the latter seemed to lose itself in the healthy tissue. A ragged cervix was left behind, and was touched by a forty-grain solution of chloride of zinc.

The growth was softer than formerly, but Dr. P. was inclined to think that it was non-malignant because of its slow growth.

On motion, the specimen was referred to the Microscopical Committee.

PRIMARY INFILTRATING MEDULLARY CARCINOMA OF LUNG.

Dr. Ripley presented a specimen of the above with the following history: John Hague, aged fifty-eight years, widower, laborer, born in Germany, but a resident of this city for the last thirty years, was admitted into St. Francis's Hospital October 20, 1880. His family history was exceptionally good, and he himself had always been healthy until three months ago. He was a temperate man, and had never had syphilis. Three months prior to entering the hospital he first noticed that he had a slight cough, and this had since continued, but without getting worse; the expectoration accompanying it had been simply mucus. During the two weeks preceding his admission he had complained of some pain and soreness in the sternal region, of dyspnœa on exertion, and of weakness. A physical examination of his chest was made by Dr. Haupt, the house physician, October 21st, with the following result: Marked dulness under the left clavicle, extending downward about three inches, with loss of vocal resonance over the same region, and only distant bronchial breathing heard on auscultation. No other abnormal physical signs were observed at this time, although both lungs were examined.

I first saw the patient October 29th, and observed the following changes in the physical signs: left side of chest comparatively immovable, with retraction of lower intercostal spaces in front. Vocal fremitus lost over left chest in front, increased over upper third behind, but diminished over lower two-thirds, over right lung increased posteriorly. Apex-beat of heart found at ensiform cartilage.

Percussion.—Flatness over the entire left chest in front, dulness behind. No marked changes observed on the right side.

Auscultation.—At the left apex, in front, distant, feeble, bronchial breathing; below, absence of all sounds. Posteriorly, same side, bronchial breathing loud and superficial at the apex, feeble and distant below. On the right side, posteriorly, feeble inspiration and prolonged expiration.

The peculiar grouping of the physical signs, taken in connection with the history of the ailment, made us suspect malignant disease of the lung, although the case in most respects resembled a descending pleurisy. After introducing a hypodermic needle into the left chest, both in front and behind, and obtaining at each trial a syringeful of bloody serum, we pretty much decided that it was a case of simple subacute pleurisy, and that the blood was a result of the tearing off of old adhesions.

As the respirations at this time were hurried (40 per minute), the house physician was directed to draw off a portion of the fluid, and accordingly the following day removed thirty-two ounces by aspirations. No marked relief followed. The patient died rather unexpectedly of exhaustion, November 5th, without any further physical examination having been made. The urine had, however, in the meantime, been examined, but with negative results.

The *post-mortem* examination was made twelve hours after death, by the curator, Dr. Wendt, and is detailed below.

The body was that of a powerful, muscular man, and was but slightly emaciated. The heart appeared normal, barring some incipient atheromatous deposits just above the aortic semilunar valves.

The *pericardial sac* contained a small quantity of yellowish fluid. The left parietal pericardium showed a collection of small, whitish deposits at a point corresponding to a rather firm adhesion of the sac to the lung.

The *left lung* showed adhesions of its pleural covings, especially at the anterior border of the superior lobes, where they were quite firm. The pleural cavity contained about one quart of a bloody, rather turbid fluid. On cutting the pulmonary tissue, all the lobes were found to be more or less solidified. The impression conveyed at first sight was that of a catarrhal pneumonia, or a croupous pneumonia, with incipient purulent resolution. There were between the rounded areas of grayish white solidified lung patches of hyperæmic and partially atelectatic pulmonary tissue. Numerous slate-colored or black streaks were also found throughout the parenchyma. A beautifully marked white reticulum, with polygonal meshes, was seen just beneath the pleura. On pressure, the infiltrated portions yielded a muddy fluid of creamy consistence. At the apex some breaking down had occurred.

The right lung was also infiltrated, but much less extensively, and the disease was confined almost exclusively to the lower lobes. The pleural cavity contained a few ounces of bloody serum. There were also some pleural adhesions, but they were less extensive and less resisting than those of the opposite side.

The *bronchial glands* were quite hard, enlarged, and uniformly black.

The œsophagus, stomach, and intestines appeared normal: the spleen was small and soft. The liver was healthy, though somewhat hyperæmic. Both kidneys showed slightly adherent capsules. After removal of the latter, the surface of the organ was seen to be studded with numerous whitish deposits, most of which were of miliary size. The interior of the kidney also showed these sprinklings, but in apparently less abundance.

A microscopical examination of the juice yielded on pressure of the lungs revealed the excessive presence of large polymorphous, epithelial cells, with one or more distinct nuclei. Many of these cells were in a condition of fatty degeneration. A further examination proved that the pulmonary condition was one of *primary infiltrating medullary cancer*, and that the miliary renal bodies were secondary cancerous deposits. The pulmonary alveoli were distended with the cancerous infiltration; the visceral pleura was not much thickened. The subpleural white reticulum was found to correspond to a network of lymphatics, and the black streaks were the pigmented interalveolar septa.

Dr. Wendt remarked that perhaps the case was a unique one. Apart from the great rarity of primary cancer of the lungs, the fact that in the present instance all the lobes of both lungs were infiltrated, constituted this case an exceptional one. Moreover, the extreme rapidity of the invasion, as indicated by the clinical observations, apparently left no time for a secondary affection of the bronchial glands. An additional point of interest was found in the presence of secondary miliary deposits in both kidneys. Generally the liver was the first organ to be implicated by metastatic tumors. Of course, when the disease had become so extensive as in this case, it was no longer possible to determine with accuracy the histological origin of the neoplasm. Its mode of growth was probably along the lymphatic channels, and not by simply spreading to the contiguous tissues. The existence of the subpleural reticulum of lymphatics containing epithelial bodies, justified this assumption. Ordinarily pulmonary carcinoma was found in larger or smaller nodules, although the infiltrating variety was also known to occur. The freedom of the pleura from cancerous transformation was another noticeable feature of the case. The morbid process had probably started in the apex of the left lung, where some breaking down was discovered, constituting what had been described as cancerous phthisis. Perhaps the rapidity of extension was due to transmission along the lymphatic channels.

Dr. Ripley stated that the views of Hertz that cancer of the lung had its origin in the parenchyma of the organ, appeared to be in accordance with clinical experience in the present case, viz., that the air-cells were the last to be affected. In answer to a question from Dr. Sattherthwaite he stated that there did not appear to be a doubt that the disease had commenced in the left lung. Regarding the diagnosis of such a disease, there was always great difficulty even when there was not the complication of pleuritic effusion. In fact it was the rule to make the diagnosis at the autopsy.

Dr. Satterthwaite remarked that there was a reason why the diagnosis was obscure in such cases, viz., that the deposit of cancerous material was disseminated pretty evenly throughout the extra-alveolar tissue of the lungs, in this respect resembling miliary tubercle, which, it was well known, might infiltrate the same tissue easily and extensively and, yet give rise to no special physical signs.

Dr. Lewis Smith remarked, apropos of the diagnosis in such cases, that inflammatory lung troubles in infants, when disseminated throughout the pulmonary tissue, were difficult and often impossible of detection.

Dr. Carpenter asked if there were any cancerous deposits in the pleura.

Dr. Wendt replied that the lymphatics in the subpleural spaces were filled, and exhibited to the naked eye well-marked networks. Microscopic examination subsequently showed that they contained epithelioid corpuscles similar to those in the lung-cancer.

AORTIC VALVE WITH FOUR CUSPS.

Dr. Peabody presented a specimen of aortic valve with four cusps. The fourth cusp was quite small and was interposed between the angle of junction of two others. The heart appeared perfectly normal. The anomaly in the valve was evidently congenital. The man from whom the specimen was taken died as the result of violence. The valve was found to be sufficient. In this connection Dr. Peabody called attention to an anomalous condition of the aortic valve previously presented to the Society, in which only two cusps were discovered.

Dr. Satterthwaite thought that the extra cusp was a mere accessory rudimentary organ without special function.

Dr. Peabody remarked that the cusp was so situated as to be hidden when the valve was distended.

VALUE OF THE WATER-TEST.

Dr. Ripley asked the president if he considered the water-test a satisfactory one.

Dr. Satterthwaite remarked that it was not altogether trustworthy, inasmuch as a perfectly healthy valve might fail to close with the water-test at post-mortem, while a diseased valve might often be made to close, if the heart were held in some particular position.

Dr. Ripley said that he had frequently failed in closing the valves by the water-test, when he was quite certain that there had been no valvular murmurs during life.

THE MUCOUS MEMBRANE OF THE UTERUS DURING MENSTRUATION.

Dr. Peabody exhibited the uterus with ovaries attached, and removed from the body of a woman aged twenty-five years, who died the day previously from the effects of very extensive burns. She was in perfect health at the time of her death. At the autopsy there were found no lesions of the viscera, except congestion of the brain, lungs, and kidneys. The interest in the case centred in the condition of the uterine mucous membrane, which was uniformly thickened throughout the body of the organ. This thickness was equal to six or eight millimeters. Dr. Peabody had not met with a similar condition before, in an apparently healthy uterus, but Prof. Dalton, who had seen the specimen, had informed him that it was a normal condition of the uterine mucous membrane preceding menstruation. The correctness of this view was proven by the existence of a corpus luteum, three weeks old. In the opposite ovary was found a cyst large enough to admit the tip of the thumb.

Dr. Carpenter referred in this connection to the researches of Dr. Englemann, of St. Louis, who, with Dr. Kundrat,* of Vienna, had established the facts that the mucous membrane of the uterus, during the period of maturity and functional activity, was a little over 0.04 (1.0 mm.) of an inch thick at the fundus and the anterior and posterior walls; and that during the menstrual period it was swollen from 0.118 to 0.236 of an inch (3–6 mm.) in thickness.

Dr. Tauszky referred to similar observations made by Dr. Williams, of London. He asked if there were any evidences of endometritis in the specimen.

Dr. Peabody remarked that there were no such evidences.

UTERINE MYOMATA WITHOUT SYMPTOMS.

Dr. Peabody also exhibited two uteri showing myomata in various stages of development. One was removed from a patient, aged fifty-two years, who died of apoplexy; and the other from a patient, aged fifty years, who died from an attack of acute tonsillitis while suffering from softening of the brain. In the former case no history of uterine disease could be discovered, and in the latter no complaint referring to the uterus was made by the patient during two months that she was under observation at the hospital.

AMYLOID DEGENERATION FROM CACHEXIA.

Dr. Gibney presented a specimen of dry caries of the dorsal vertebræ associated with the condition of waxy kidney. The specimen was removed February 19, 1879, from the cadaver of a boy who died the same day, and was presented to place on record a case of amyloid degeneration of the liver and kidney, which developed without a history of either syphilis or suppuration. Carious ostitis was essentially a suppurating disease. Notwithstanding this fact, however, there had been no congestion abscess, and no prolonged suppuration such as usually preceded the pathological condition of the organs mentioned. The case contained many other points of interest, and he proposed to give it in detail:

March 7, 1878.—I recorded notes of this patient, David D——, aged fourteen years, who had been an irregular attendant in the out-door department of the Hospital for the Ruptured and Crippled since October 10, 1872, on which date caries of the first, second, and third dorsal vertebræ had been diagnosticated and treatment begun therefor.

The paternal family history was tuberculous through two generations.

During the early part of his treatment he became paraplegic and was totally unable to walk for three or four months. Has been in moderately good health since his recovery from the paraplegia, but for the past two years his fingers have been growing clubbed, and now this deformity is very marked. From time to time examinations have seemed to reveal cavities in the lungs, yet the constitutional disturbance has not been sufficient to warrant such a diagnosis.

Recently, œdema of the feet and legs has appeared, and dyspnœa has accompanied this condition. Now, there is a very large abdomen, with fluctuation quite distinct, great œdema of the feet and legs, and puffiness about the face. Urine abundant in quantity, straw-colored, containing a flocculent deposit, and fifty per cent. albumen by the nitric acid and heat test, and hyaline and granular casts, probably fatty. Ophthalmoscopic examination negative.

The height of the vertebral prominence is two inches, and there is no sign of congestive abscess. Is ordered infusion digitalis, ʒ ij. t. i. d. After a few days the œdema became less, and he went about as usual. On December 7th his blood was examined microscopically, and no evidence of leucocythemia found. His liver and spleen were found on percussion to be enormously enlarged.

January 19, 1879.—Anasarca increased, and his dyspnœa became distressing. The usual diuretics and cathartics afforded temporary relief, but his symptoms finally returned, and he died after a few convulsions on the 19th of February, no coma having been present.

Dr. Janeway kindly assisted me at the autopsy, eight hours after death.

Lower half of body, including the extremities, œdematous. Abdomen greatly distended, was punctured and about three quarts of clear serum drawn off.

Liver greatly enlarged, filling the larger part of the abdominal cavity, extending on the right side up to the third rib and down to a point four and a half inches below the border of the free ribs. The lower border rounded and about two inches thick. The left lobe was also enlarged, yet its lower border was sharp. Weight four and three-quarters pounds; dark colored and very solid; surface smooth and shining, and waxy to one's touch. On section the same color was observed, and Dr. Janeway pronounced it typically amyloid. The iodine test confirmed this opinion.

Spleen enlarged, weighing nine ounces, irregularly lobulated; hard, shining, and waxy in appearance.

Kidneys.—Weight of each, eight ounces; surface smooth, but covered with small lobules; color, a clear white mottled with red at intervals. Capsules for the most part strip off readily, though at a few points adherent, tearing away the substance of the gland with it. On section, the enlargement was seen to be due to thickening of the cortex, which in some places amounted to a half-inch. This was of a homogeneous dead white color, against which the pyramids, which appeared natural, stood out in bold relief. No cysts in the cortex or pyramids. On treating the cortex with compound solution of iodine, dark mahogany striæ were brought out, showing the waxy infiltration in the walls of the tubes and vessels. This color was not changed on the addition of sulphuric acid.

Thorax.—No considerable amount of fluid in the pleural cavity. Chest explored through the diaphragm, and the examination was not fully satisfactory. The right lung, as far as could be judged by one hand, it not being removed, was normal. The left was removed, and a dense hard mass was felt at the apex, which, on section, showed fibrous induration, but no cavity or tubercle found. Very little if any extra fluid in pericardium, and the heart, though not removed, seemed about normal in size.

The *clubbed* fingers Dr. Janeway attributed to the dyspnœa.

Spine.—The whole dorsal region was removed by sawing through transverse process.

At the apex of the angle of the kyphos, on the left side, was observed a cheesy mass, through which the saw passed.

A section made through the portion of the column removed, beginning from below, gave: Bodies of the twelfth and eleventh dorsal vertebra intact, and also the inter-vertebral disk. The disk between the eleventh and tenth was represented only by the articular cartilages, the body being absent; but the bodies of the contiguous vertebræ did not face together. In the body of the tenth was a cavity at the upper two-thirds, and posteriorly encroaching upon the body of the ninth. These vertebræ were fused together at the anterior portion. The cavity was one-half inch antero posteriorly and vertically, and about one eighth laterally. The intervertebral disk between the tenth and ninth was the last one we could recognize as we passed upward until we reached the one between the third and second. The intervening bodies, *i.e.*, the ninth, eighth, seventh, sixth, fifth, fourth, and third, were fused together into one solid mass, which measured along its anterior border one and a quarter inches. The angle in the spine thus formed was a little less than 90°, the apex being at the sixth dorsal. Behind this mass and more to the right side was a cavity communicating with the spinal canal and apparently formed at the expense of the spinous processes. It would hold about ʒ iij. of fluid, and was lined by an enormously thickened dura and pachymeningeal tissue, in all about three-eighths of an inch thick.

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* Stricker's Medizinische Jahrbücher, 1875.

The cord was a little smaller than normal, and on section presents nothing microscopic except a faintly grayish hue in anterior cornual left side. On inner side of the meninges was a well-marked false membrane to all appearance fully organized. These tissue thickenings extended from this point up and down one inch. Sections of cord at different points showed nothing microscopic.

On removing the soft parts it was seen that the pedicles of the fifth, sixth, and seventh vertebræ formed the angle of the prominence, and were here firmly fused together, the sixth and seventh being joined through nearly their whole extent. The spinous processes of these vertebræ were also fused, forming a continuous and regular arch of bony substance. There was nothing left of the fourth vertebra except the pedicles, and these were small. All that remained of the bodies of the fifth, sixth, and seventh, was a piece three-eighths by one quarter inch in size. A bridge of bone connected the fourth and fifth anteriorly, so that virtually the pedicles of the fourth, fifth, sixth, and seventh were fused together into one mass. These articular remnants between the third and fourth showed loss of synovial membrane—in fact, there seemed to have been here a true arthritis with destruction of surface.

Dr. Robinson asked if there had been any history of malaria in the case, as such might, in the absence of other causes, explain the condition of waxy kidney.

Dr. Gibney replied in the negative.

Dr. Satterthwaite asked if there had never been any previous suppuration in any portion of the body.

Dr. Gibney replied that there was no evidence of any, except that of a small cheesy mass, referred to in the history. In this connection he remarked that in most of the cases of amyloid degeneration there was a tuberculous diathesis associated with the condition of suppuration.

Dr. Ripley asked if cases of amyloid degeneration depending upon prolonged suppuration did not improve when the cause of the suppuration was removed.

Dr. Gibney replied affirmatively.

Dr. Ripley remarked that such a view militated against the existence of a tuberculous diathesis in these cases.

Dr. Gibney stated that there was no evidence that waxy degeneration disappeared entirely, as no autopsy could prove such a point. It was not unfrequently the case that young patients who had exhibited these difficulties improved until the period of puberty, or when phthisis was most apt to develop itself and then they would succumb to the latter disease.

Dr. Ripley remarked that such cases might recover from the waxy degeneration and have phthisis afterward. Several years ago he amputated the thigh of a boy for suppurating disease of the knee-joint, which was associated with waxy degeneration of the liver, spleen, and kidney. After the operation the liver and spleen decreased in size, the urine ceased to furnish casts, and to all appearances the child entirely recovered.

Dr. Wendt replied that the reduction in the size of these organs might have been due to the absorption of the fatty deposit which frequently coexisted.

Dr. Ripley said that clinically it was hard to determine whether the organs were fatty or waxy, but it seemed to be a fact that when these organs were subject to so-called waxy degeneration the patients were in very poor health, and that when these organs were reduced in size the health returned. It was also a fact that patients with large fatty livers often enjoyed very good health.

Dr. Peabody remarked that waxy degeneration was a compound condition. In the liver and spleen it was made up of a fatty and of an amyloid deposit, but in the kidneys it was associated with an extra pathological change, viz., that of chronic diffuse nephritis. Taking this view of the question it was possible to conceive how the organs might be reduced in size and yet not return to an absolutely healthy condition. At least such a supposition could be tenable regarding amyloid kidney, a disease which was considered incurable.

Dr. Ripley understood such views to be merely theoretical, as there were no means of proving that waxy kidney could not be cured. It used to be held that when a patient had Bright's disease of any considerable standing that he must die. Now it was known that the most marked evidences of Bright's disease might show themselves, and that the patient, so far as was known, got well, or at least lived for years. It might be said that this kidney disease would return, but it was hard to prove it.

Dr. Peabody remarked that waxy kidney was considered incurable, because when it had been diagnosticated before death it was always found post-mortem, notwithstanding the fact that the spleen and liver were decreased in size and that the patient had improved in health as the immediate result of arresting the suppurative discharge.

CASTS AS A SYMPTOM OF BRIGHT'S DISEASE.

Dr. Amidon presented a specimen of urinary casts, which was interesting as bearing upon the question of the prognosis in kidney disease. The specimen was obtained eighteen months ago from an engineer of a Pacific mail steamer, who was suffering at the time from symptoms of southern malarial fever. A diagnosis was made accordingly. On examining a specimen of urine under the microscope the following day Dr. Amidon was very much surprised to find casts of all varieties except the hyaline. The urine contained five per cent. of albumen and two and eight-tenths of urea. Dr. A. was so much alarmed at the condition of the urine that he made haste to modify his original diagnosis by adding thereto the grave one, of complication of acute nephritis. An unfavorable prognosis was also given. Quinine was administered hypodermically. The next day the temperature had fallen almost to the normal point, he specific gravity of the urine increased, there was no albumen, but few casts, and the urea was increased to three and eight-tenths per cent. The patient continued to improve, so that at the end of a week he was fairly convalescent. The patient at the time of making the report was in perfect health. Here, then, was a case in which all the varieties of casts save one were found in the urine, and yet the patient recovered.

Dr. Tauszky remarked that in the specimen presented he did not see any more than two varieties of fibrinous casts.

DIPHTHERIA.

Dr. Lewis Smith presented a specimen of diphtheria removed from a child one year old, who died a few days after having been attacked with the disease. The exudation was noticed upon the uvula, both tonsils, and posterior portion of the pharynx, and at the autopsy was found to extend as far downward as the bifurcation of the bronchi. The urine was albuminous, but no examination had been made for casts. He presumed that casts of the usual varieties, granular and hyaline, would have been found because of the intense congestion of the kidney that was present.

Dr. Smith, in alluding to the general characters of the disease, took occasion to remark that it was essentially constitutional from its inception.

Dr. Ripley concurred with the latter view, maintaining that the symptoms were those of special poisoning rather than of ordinary septicæmia.

Dr. Robinson remarked that the albuminuria could be explained in such cases by the existence of broncho-pneumonia, from extension of the disease, and also from high temperature.

TEMPERATURE IN DIPHTHERIA.

Dr. Ripley said that as a matter of fact it was not necessary to the production of albuminuria in these cases to have either lung complication or high temperature; that with low temperature, and with no lung trouble, casts were often found in the urine. As a rule, diphtheria was not accompanied with a high temperature; indeed, the worst cases had very often a low temperature.

Dr. Robinson said that it was very rare in his experience to see a case of diphtheria die from the disease uncomplicated with the lesion of some internal organ.

Dr. Ripley was surprised to hear such a statement, as patients were known to die of the poison within twenty-four hours after the invasion, and before there was time for any special lesion to show itself.

Dr. Robinson stated that he had made thirty very thorough post-mortem examinations during an epidemic of diphtheria, had watched the cases from the inception of the disease, and his statements were founded upon the facts which such a study demonstrated.

Dr. Lewis Smith remarked that in malignant cases during the first forty-eight hours the temperature was usually low. When such cases continued for four or five days they were attacked with nephritis.

BILIARY CALCULI WITHOUT SYMPTOMS.

Dr. Denslow presented a large number of gall-stones removed from the body of a woman who had exhibited no symptoms of their presence during lifetime.

Dr. Carpenter remarked that it was not uncommon to find gall-stones at the autopsy without a clinical history pointing to them.

Dr. Peabody alluded to the frequency with which gall-stones were found in some parts of Germany. Most of these cases presented no symptoms during lifetime.

ABSCESS OF THE LIVER—ABSENCE OF ALL HEPATIC SYMPTOMS.

Dr. Wendt presented a specimen of abscess of the liver with the following history:

The case, which had been observed at the St. Francis' Hospital, in the service of Dr. Lellman, illustrated the occurrence of purulent hepatitis without a single symptom pointing to disease of the liver. An abstract of the history was obtained from the house physician, Dr. Neumer.

G. S——, aged sixty-two years, German, married, by profession a driver, was admitted to the hospital August 30, 1880. For eight weeks previously to admission he had suffered from an intractable dysentery, and although he had been formerly a robust and powerful man, he was now emaciated and troubled with night-sweats. Upon examination, a loud, blowing murmur was found over the apex of the heart. The liver dulness was much increased, the lungs appeared normal, and the urine tests gave negative results. He complained of no pain. The enteritis was never completely controlled. He underwent an attack of peri-endocarditis, and died of pulmonary œdema on the 9th of November. The temperature had never exceeded 101° F., except during his attack of pericarditis.

On the next day an autopsy was made, and the following notes taken: Position of abdominal organs apparently normal, except that the liver extends lower down than usual. On the left side the diaphragm was at the level of the fifth intercostal space; on the right side it was pushed up to the upper border of the fourth rib.

The spleen was healthy. The left kidney was large and pale. The right kidney had a uniformly yellowish white appearance in its upper third, and the whole organ was smaller than the left.

The bladder, stomach, and small intestine seemed normal.

The *liver* was very much enlarged; there was a conspicuous bulging of the organ upward, affecting the right lobe. This was found to be the seat of a large abscess of oval shape, which left a margin of liver-substance varying in thickness from one-eighth of an inch to about one and a half inches. This abscess showed no distinct lining membrane, but there was a pretty sharp line of demarcation separating it from the surrounding hyperæmic parenchyma. The cavity of the abscess was occupied by friable masses and irregular lumps, as well as firmer bands and shreds, the whole bathed in a dirty, purulent fluid. At the most convex portion of the right lobe the diaphragm was firmly adherent, and on forcible removal the abscess was here found to have almost reached it. The pulmonary surface of the diaphragm showed a rich subpleural network of newly formed vessels just above the adherent portion. The other hepatic lobes were only moderately hyperæmic in their portal vessels.

Both *lungs* showed widespread œdema affecting all the lobes.

The *heart* was found to be moderately dilated and hypertrophied, these changes being rather more marked on the right than the left side. The aortic semilunar valves were thickened, principally at the Arantian nodules. Just above the bulbar there was a posterior dilatation, resembling incipient aneurism.

Slight atheroma was also found. One coronary artery was abnormally situated about an inch higher up than usual. Its orifice was also conspicuously enlarged, and the calibre of the whole vessel much increased. The other valves were likewise thickened, except the semilunar pulmonary valves, which were fenestrated at their free borders.

The *colon* and *rectum*, but especially the latter, showed great thickening, which involved mainly the mucous and submucous coats. The internal surface was slate-colored or black, and roughened from the presence of many superficial ulcers, with jagged edges. There were also numerous ecchymoses, and here and there diphtheritic sloughs had occurred. The mesentery and its glands were not altered.

Dr. Carpenter asked the question as to whether any pyogenic membrane existed in this case, and being answered in the negative, remarked that such a fact had an important bearing upon the statement made regarding the curability of hepatic abscess after aspiration. It was claimed by those who have aspirated the liver and evacuated pus that there was no necessity of repeating the operation, inasmuch as there was no pyogenic membrane, and that the abscess healed at once. A clinical feature in that case worthy of notice in connection with aspiration was that there were no symptoms of the presence of the abscess during life.

Dr. Delavan presented a specimen of epithelioma of the larynx, after which the Society went into Executive Session.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Dec. 2, 1880.

Fordyce Barker, M.D., LL.D., President, in the Chair.

The Librarian reported that since the last stated meeting the library has received 78 bound and 29 unbound volumes, 185 pamphlets, and 181 medical journals. Four volumes presented by Dr. Wiener possessed special value.

THE MANAGEMENT OF ECZEMA OF THE ANUS AND GENITAL REGION

was the title of a paper read by Dr. L. Duncan Bulkley (see p. 676).

The paper being before the Academy, was discussed by Dr. Fred. R. Sturgis, who concurred with the author of the paper in the doctrines which it contained. He directed attention to a variety not mentioned, namely, that occurring in gouty subjects. He also believed that the eczema, with the thickening of the skin, were secondary to the irritation produced in trying to relieve the itching. Local remedies he regarded as purely palliative, and relied upon internal remedies, the most efficient of which were the mineral acids. He also believed that a distinction must be made with reference to the age of the disease when considering the question of local applications. In chronic cases in which the skin was thickened, but no fissures existed, he had seen excellent results follow the use of *carbolic acid and glycerine*, in the proportion of a drachm of the crystals to the ounce of glycerine, as recommended by Dr. Bronson, of the New York Dispensary. Flexible collodion had proved serviceable, and the object of its application was twofold: first, exclusion of air; and second, separation of the parts so that friction was excluded. The compressing action of the collodion was also beneficial. He agreed with the author of the paper in the statement that arsenic was inert in that class of cases.

Dr. Satterlee agreed substantially with Dr. Bulkley in his views concerning the management of the affection under consideration. The plan of treatment which he commonly adopted, however, was even simpler than that described. He thought that the combination of a saline cathartic, a saline diuretic and an alkali, simplified the treatment and also prevented the patient from taking too much medicine. With regard to local applications, he regarded the tincture of tar as the simplest and most effective—tar dissolved in methylic spirit and applied twice a day, directing that the parts be washed once a day with tar- or castile-soap and water. If the tincture of tar was too stimulating, tincture of opium might be added with benefit. The saturated solution of tar in methylic alcohol, diluted according to requirements might be used. The smarting which it produced when first applied soon passed away.

Dr. H. G. Piffard said that the internal treatment which he had found most serviceable consisted essentially in the use of oxidants, alkalies, which acted as adjuvants to the oxidants, and cholagogues. Of the oxidants, *chlorate of potassa* and *nitric acid* were those which he commonly employed; of the alkalies, the *salts of lithia*, especially the benzoate, had the preference; and of the cholagogues, the *blue flag* was his favorite, administered in doses of *ten drops* of the tincture t. i. d., which was usually progressively beneficial—immediate benefit not being produced. But the local treatment must not be neglected; and, for the purely acute eczema—occurring, perhaps, in a patient who lived somewhat sumptuously—a full dose of calomel would frequently relieve him very much, and white precipitate ointment was probably as good a local remedy as could be used. In cases of chronic eczema, the indications, besides the use of internal remedies, were first to relieve the pruritus, and second to diminish the infiltration; and as a rule, the pruritus was not relieved until the infiltration was reduced. To reduce that he knew of nothing more beneficial than *strong alkalies*, such as liquor potassa, tincture of soap, etc. For the pruritus, aconite and digitalis had been used with good results, also staphysagria and stramonium. The *caladium seguinum* in tincture he had also used sometimes with most excellent results, and again without any benefit whatever. He had seen one case of wrist-drop from the prolonged use of diachylon ointment.

In many cases fissures coexisted with the eczema, and, if they were not deep, many of them could be healed by the use of suppositories containing five to ten drops of the tincture of rhatany and one or two grains of pure plumbago.

Dr. C. Heitzman, on invitation, remarked that true science did not deal with imagination and opinions. If the question was asked, had it been proved that gout or kidney disease, etc., caused eczema, certainly the answer would be in the negative. Eighteen years of experience, mostly under the guidance of Hebra, had taught him that the disease should be regarded, primarily, as a local affection, and secondarily, as a complication of other diseases. Dr. Bulkley had mentioned defective intestinal excretion as a cause of eczema, and it was probably true that persons affected with eczema of the anus suffered from constipation; but, had we any valid reason for supposing that the peculiar quality of the fæces, or the condition of the urine, or the acridity of the bile, or the sluggishness of the portal circulation, produced the disease? Most certainly not. It should suffice to say that fissures were very commonly produced by the passage of hardened fæces, and the local irritation produced might cause eczema. The perspiration from the parts might be of such a nature as to give rise to eczema about the anus and the genitals. So far as his experience went, he must positively say that all the articles of the pharmacopœia mentioned by the author of the paper and the speakers by whom he had been preceded, were of no value whatever in the treatment of eczema. Surely the regulation of the stomach was beneficial in the treatment of skin diseases; but, was it not excellent in the treatment of any disease? Unfortunately, in very many cases it was one of the extremely difficult things to accomplish, and how often did we succeed? The same thing could be said with reference to kidney disease and other diseases upon which the local disease had been supposed to depend.

Local treatment was sufficient to cure a certain percentage of all the cases of eczema, and a certain percentage of cases would inevitably remain uncured despite any plan of treatment. If removed temporarily, the disease will return in those obstinate cases. The treatment of acute eczema should be entirely different from that adopted for the chronic form of the disease. In the acutest conditions everything that irritated, including all ointments, and also water, should be entirely avoided. The parts should be kept dry by the use of some kind of powder.

In the pustular stage of eczema ointments were indicated, and first among these was the *diachylon.* He had not seen lead-poisoning follow its use, but could understand that such a result might follow its steady use for six months.

In the squamous stage the tincture of tar was his favorite local remedy. About four or five per cent. of the patients were made worse by the use of tar, but in the ninety-five or ninety-six per cent. simple tar acted wonderfully well.

For chronic eczema the treatment must be entirely different. In such cases, with thickened skin, etc., *irritation* was indicated. Hot water, then, might be of service, carbolic acid, green soap, etc. The object was to change the chronic into an acute condition, and then cure the acute disease. In a certain number of cases that could be done, and in a certain number of cases it *could not be accomplished.*

With reference to *eczema marginatum,* a few experiments had led him to the conclusion that *sulphurous acid was not a parasiticide.*

Dr. Frank H. Hamilton regarded the chronic malady as both local and constitutional in a majority of cases. It was local in certain parts of the body, for reasons which could be readily appreciated. But it was especially obstinate in patients whose constitution had in some way been broken, and most frequently they were in an anæmic condition. His memory, during the discussion, had been burdened with panaceas, and he had been led to the conclusion that something was lacking in the mode of bringing the subject before each other. We should have some broader principles than could be deduced from the mere relation of personal experience. It was evident that the majority of remedies recommended for chronic eczema were stimulating, and that unless they did produce irritation they were useless. Dr. Hamilton referred to one case in which the eczema was aggravated by the use of tobacco, thus showing a possible neurotic element in certain cases.

Dr. Sturgis entered his protest against the doctrine that eczema was a purely local affection. He believed, despite the fact that it might not be scientific, that in very many of the cases the eruption was the localized manifestation of a constitutional affection, and that, although local remedies were undoubtedly serviceable, internal medication was necessary to effect a permanent cure.

Dr. Piffard believed that if physicians were obliged to depend upon facts alone, they would have but little upon which to depend. Something must be done in accordance with inference. Constitutional conditions preceded and coexisted with the development of eczema, and when those conditions were removed, or even relieved, in many cases the skin disease disappeared. It was a legitimate inference, therefore, that the eczema was only a local manifestation of a constitutional condition, even if it was not proved positively that the one caused the other.

Dr. Sherwell, of Brooklyn (on invitation), had studied with Hebra, and had great respect for his teacher, but, at the same time, believed that he was mistaken concerning the purely local origin of all skin diseases. Dr. Sherwell believed that eczema was caused by diathetic conditions. It was natural that all should seek to cure eczema with local remedies, and there was a certain plan of local treatment by which a large number of cases could be cured. He believed in the depurative action of many remedies, especially of calomel, and knew that it was beneficial in many cases of this affection. He thought it unwise to adopt exclusively the views of any single school of observers.

Dr. Bulkley remarked that cases of eczema had been treated year after year with local remedies without benefit, and then cured by the simple addition of constitutional measures, hygienic, etc.; thus proving that the disease had had other than a local origin.

The resignation of Dr. E. R. Squibb as a resident fellow was accepted, after which the Academy adjourned.

Correspondence.

SUBCUTANEOUS EMPHYSEMA DURING LABOR.

To the Editor of The Medical Record.

Sir—In the Medical Record, No. 526, page 629, I find that subcutaneous emphysema is reported as being of somewhat unusual occurrence, and concluded, with your permission, to place another case on record. It is as follows:

Rosa P——, aged nineteen years, primipara. Was called to see her April 13, 1880. She was a healthy, vigorous person, slightly below medium size. A midwife who had been in attendance, when she found the breech presenting, gave up the case and said a physician must be called. She had been in labor several hours; the uterine contractions were not very strong; considerable time elapsed before the body of the child was delivered; in order to expel the head she made several very powerful efforts at bearing down. Immediately after the child was born she complained of pain in her throat, her neck was swollen, and slight crepitation could be felt. The swelling increased rapidly; her face became cyanotic; she complained of an uncomfortable sensation about her neck and chest; swallowing caused a pain as if a pin were sticking in her throat.

I ordered cold applications to her neck, told her not to be alarmed, and that she would be better in the morning. When I again saw her the next morning her face was disfigured by the swelling, her neck was puffed out even with her cheeks, crepitations could be felt all over the temporal and occipital bones, and downward the emphysema extended as far as the lower edge of the mammæ and ensiform cartilage of the sternum, and both arms almost to the elbow-joints.

I was very much alarmed when I saw her in this condition, but, ascertaining that there was no dyspnœa and that she could swallow fluids readily, besides not knowing what to do to prevent any further swelling, I concluded to let her alone and await further developments.

The emphysema did not extend any farther, and, after remaining in this condition about two days longer, it began to subside. Ten days after her confinement no crepitations could be felt anywhere.

Yours, respectfully,
L. Haupt, M.D.

63 Rivington Street, N. Y.

AN UNUSUAL CASE OF INTUSSUSCEPTION.

To the Editor of The Medical Record.

Sir:—The following case, which has been recently the subject of remark in the Record, presents some points of unusual interest and importance in the diagnosis of intestinal intussusception:

F. A. F——, colored, aged six months, was brought to my office August 3, 1880. His mother, an intelligent mulatto, offered the following history: The infant, who had been quite healthy from his birth, except that, as the mother expressed it, "he always was a very colicky baby," awoke about 5 A.M. on the preceding day, crying out in an apparent attack of ordinary colic. This attack soon passed by, and the infant continued, to all appearances, as well as usual during the remainder of the day, though his bowels moved three times. He slept well during the early portion of the succeeding night, but awoke again early on the morning of the 3d, and renewed his screams of pain. Ordinary domestic remedies failing to procure relief, he was brought to my office about 10 A.M. The mother reported that he had been vomiting frequently during the morning, but that he had no diarrhœa, and his bowels had been moved by an enema. At this time the infant was sleeping in his mother's arms, but occasionally moved uneasily with a half-suppressed cry. His skin was cool, bowels soft and free from tenderness, and the vomiting had ceased for an hour or two. Supposing the case to be one of ordinary indigestion, castor-oil was prescribed to move the bowels, and an opiate mixture for subsequent administration.

About two o'clock of the succeeding night (4th) I was called to see the child, and informed that the castor-oil and several doses of the mixture had been taken, but that no movement of the bowels had ensued until about half-past one, A.M., when a bloody stool had been passed. The napkin was shown to me, and apparently contained about one and a half to two fluid ounces of bloody serum, with little or no fecal matter. No vomiting had occurred, although the infant had nursed several times, but attacks of colicky pain and straining had been frequent and severe. Temperature in rectum, 101° F. bowels soft and free from tenderness. Suspecting a possible intussusception, the rectum and abdomen were carefully examined, but no tumor was detected I ordered a flax-seed poultice to the abdomen and liq morphine sulph. (U. S.), gtt. v. every one to two hours until pain and straining were relieved.

11.30 A.M.—Infant fully under the influence of morphine; no vomiting, no movement of bowels, which continue soft and free from apparent tenderness. An effort was made to inflate the bowels through a catheter in the rectum, but proved ineffectual, as the air escaped per anum in spite of compression. Morphine continued p. r. n., and poultice to the abdomen.

8 P.M.—Infant has manifested very little pain, though no morphine has been given since my previous visit. No vomiting or movement of the bowels. Suspicion of a tumor in left iliac fossa, where some tenderness, resistance to deep pressure, and slightly impaired resonance are manifested. No tumor in rectum. Child inverted upon arm of a lounge and about three-fourths pint of warm salt water slowly injected until returned by anus. Bowels gently kneaded, and child kept inverted for half an hour.

Third day, 9 A.M.—Child passed a very restless night, crying out frequently with pain. Injection of last night came away, but no feces. Infant quiet under morphine at present. No vomiting has occurred, but he refuses to nurse. Injection of salt water repeated, and apparently passed some distance into the descending colon, producing dulness nearly up to the ribs on the left side. Consultation proposed looking to operative interference.

4 P.M.—No marked change. Injection came away without fecal matter. As a last resort, the infant was inverted, and two ounces (by weight) of metallic mercury injected through an elastic catheter as high as possible into the rectum. The inverted position was then maintained for a full hour without apparent suffering.

8.30 P.M.—Requested my friend, Dr. S. Whitall, to see the case with me, prepared to operate should such a course seem justifiable. A portion of the mercurial injection had escaped on the restoration of the infant to the erect position; the remainder came away during Dr. Whitall's examination. Pulse, 160; temperature (rectal), 102⅗° F. Considerable tympanitis; no tumor discoverable either in rectum or abdomen; no vomiting, no movement of bowels, very little apparent pain or straining. After a prolonged and careful examination, Dr. Whitall declined a positive opinion, considering a differential diagnosis between intestinal obstruction and peritonitis uncertain for the following reasons: 1st, the entire absence of vomiting since the first day; 2d, the absence of bloody stools since the same day; 3d, the slightly marked character of the pain and straining; 4th, the absence of any apparent tumor; 5th, the elevated temperature. While strongly inclined to consider the case one of intussusception, I could not fail to recognize the justice and importance of Dr. Whitall's objections, and after some discussion we both concluded that, as considerable doubt remained regarding the diagnosis, so severe an operation as abdominal section would be unjustifiable. We therefore decided to adminster calomel, gr. vi., with morphine p. r. n., and to apply turpentine stupes to the abdomen.

Fourth day, 9 A.M.—Pulse, 160; temperature, 103⅗° F. No movement of bowels; tympanitis much increased; turpentine enemas administered ineffectually. Ordered brandy, gtt. x. every hour, with morphine for pain.

3 P.M.—No change. Abdomen punctured in two points with hypodermic needle. Gases escape with distinct whistling sound and fecal odor. Tension of abdomen distinctly diminished.

8 P.M.—Pulse, 180; temperature, 105½° F. Abdomen greatly distended, punctured again but without apparent effect. Infant takes milk freely, and has vomited once during the day.

Fifth day.—Infant died at 7 A.M.

Post-mortem (3 P.M.).—Present: Drs. Whitall, Hawes, and Handerson. Abdomen alone opened. No evidences of peritonitis. Small intestines greatly distended. A portion of the ileum and the caput coli invaginated within the ascending colon for about three inches. The invaginated intestine, though much congested, was withdrawn without great difficulty, and no adhesions were discovered. Mesenteric and solitary glands enlarged. The tumor formed by the intussusception was found in the epigastric region, totally covered and concealed by the distended small intestines. Its position was due to a displacement of the ascending colon, and not to an invagination of the bowel as far as this point.

It may not be superfluous to summarize the foregoing history as follows: A case of intussusception proceeds to a fatal issue on the fifth day, having manifested as symptoms: 1, one single bloody stool, occurring within the first twenty-four hours; 2, no vomiting of importance after the first six hours; 3, no very intense pain nor straining; 4, no discoverable tumor; 5, a considerable elevation of temperature; 6, obstinate constipation.

H. E. Handerson, M.D.

784 Lexington Avenue, Nov. 29, 1880.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from December 5, 1880, *to December* 11, 1880.

Brown, J. M., Capt. and Asst. Surgeon. Granted leave of absence for one month, with permission to apply for three months' extension. S. O. 264, Department of the Missouri, December 2, 1880.

O'Reilly, R. M., Capt. and Asst. Surgeon. The extension of his leave of absence on account of sickness granted him August 16, 1880, still further extended six months, on surgeon's certificate of disability. S. O. 259, A. G. O., December 7, 1880.

De Loffoe, A. A., Capt. and Asst. Surgeon. Relieved from duty at camp on White River, Col., and assigned to duty at Fort Wallace, Kan. S. O. 269, Department of the Missouri, December 8, 1880.

Hall, Wm. R., Capt. and Asst. Surgeon. Assigned to duty at camp on White River, Col. S. O. 269, C. S., Department of the Missouri.

The State Charities Aid Association held a two days' conference in this city last week. Various papers upon the subject of how to take care of the indigent, the paupers, and the insane, were read. All these papers and the discussions that followed were adverse in spirit to the practice of *indiscriminate giving.* Nothing was said, however, about one of its worst forms of charity, that of indiscriminate medical relief.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending December 11, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Dec. 4, 1880.	0	13	151	3	29	167	10	0
Dec. 11, 1880.	0	18	180	2	28	166	5	0

Annual Meeting of the American Public Health Association.—The annual meeting of this Association took place at New Orleans, December 7th, 8th, 9th, and 10th, about one hundred members being present. The President, Dr. John S. Billings, was in the chair. Several new members were elected at the first day's session. The first papers were by Dr. Gustavus Devron and Dr. B. W. James, on "Abattoirs." Dr. Joseph R. Smith, U.S.A., read a paper on "Texas Cattle Fevers," in which he contended that no epidemic disease prevailed among native Texas cattle, but that a great number of imported cattle suffered from acclimating fever. The paper of Dr. Smith gave rise to some interesting discussion.

A report of the committee on a plan to prevent the spread of contagious diseases was read by A. G. Gibson, U.S.A. The report concluded with a resolution recommending legislation making it a criminal offence knowingly to communicate contagious disease, and providing for gratuitous treatment. After some discussion the resolution was adopted.

On the second day twelve papers were read by different members, more or less discussion following them. Among these were papers by Dr. G. B. Thornton, of Memphis, on the sanitation of that city, which had been in a bad sanitary condition, but was now reclaimed; a paper by Prof. Gamgee, of Washington, setting forth the sanitary value of a Florida ship canal, and the commercial advantages of such a canal. It was urged that ships could avoid the hot pestilential regions of the Caribbean Sea, and undergo quarantine inspection in the canal. A paper was read by Dr. D. C. Haliday, of New Orleans, on "Dengue Fever," describing its characteristics and the diagnosis between this disease and yellow fever. Papers on the same subject were read by Dr. J. G. Thomas, of Savannah, and Drs. Peyre Porcher and Horlbeck, of Charleston.

At the evening session Dr. E. M. Hunt, of Metuchin, N. J., read a paper on "The Present and Needed Knowledge of Epidemics," in which he discussed the germ theory of disease in its various bearings. The Hon. John Eaton, of Washington, Commissioner of Education, read a paper on "Sanitation and Education." The object of the paper was to show how increase of knowledge fostered the development and dissemination of sanitary truths. Illustrations were drawn from the history and progress of modern times to demonstrate the value of sanitation. Special attention was given to the subject of sanitation in the training of teachers and pupils in the schools. The paper was long and exhaustive.

On the third day a large number of papers were read, including one by Dr. A. N. Bell, of New York, on the "Relations of Certain Filth Diseases to Cold Weather." A general discussion of all the papers on communicable diseases ensued. Secretary Janes read a paper of Mr. James Gallatin, President of the Sanitary Reform Society of New York, on tenement-house reform in that city. Prof. T. E. Chaille, M.D., of New Orleans, followed with a paper on "The Control of Contagious Diseases in Relation to the Doctrine of Evolution." The Hon. Erastus Brooks, of New York, read a paper on "The Duty of the State to the People." The proposition demonstrated was that the public health was public wealth, and that the science of health was highest in political economy.

On the last day, in addition to the discussion of reports, resolutions, etc., Prof. R. E. Chaille, of New Orleans, read a paper giving a summary of the conclusions of the Havana Yellow Fever Commission, of which he was President. Dr. J. D. Bruns, of New Orleans, read a paper on "Fevers of the Lower Coasts."

There were nearly thirty papers read in all.

Among the resolutions offered was one by Dr. McCormick, of Kentucky, appointing a committee to consider the advisability of establishing a National Museum of Hygiene.

Dr. Chancellor, of Maryland, offered a resolution advising legislation for the better protection of the public health, and imposing a severe penalty against any person wilfully spreading any dangerous, contagious, or infectious disease. Mayor Waltham, of Mobile, introduced a resolution appointing a committee to prepare and recommend a measure for the more efficient management and control of future epidemics, and for the training of nurses. The Advisory Committee submitted a report treating of the sanitary bills before Congress, especially the bills relative to the international conference on quarantine, and for increasing the efficiency of the National Board of Health. It does not recommend any change in existing legislation, but urges that Congress make suitable appropriations for the work of the National Board, and authorize the prompt publication of reports.

The Committee, with Dr. Elisha Harris, of New York, Chairman, appointed to consider certain portions of the President's address, reported resolutions commending the efforts of the National Board of Health to secure uniformity in the notation and nomenclature of diseases and causes of mortality, and requesting medical and health authorities to do what they can to promote this uniformity. A committee was appointed to draw up a project for State Boards of Health of a law to prevent venereal diseases. Resolutions were adopted requesting the passage of a law to prevent the spreading of infectious and contagious diseases.

The following officers of the Health Association for the ensuing year were elected: President, Dr. Charles B. White, of New Orleans; First Vice-President, Dr. R. C. Kedzie, of Lansing, Mich.; Second Vice-President, Dr. Henry F. Campbell, of Augusta, Ga.; Secretary, Dr. Azel Ames, of Boston; Treasurer, Dr. J. Berrien Lindsay, of Nashville; Executive Committee, Drs. D. C. Halliday, of New Orleans, E. M. Hunt, of New Jersey, George M. Steinberg, U.S.A.; E. S. Griffin, Wisconsin; J. G. Thomas, Savannah; Thomas F. Wood, North Carolina.

The Association adjourned, to meet next year at Savannah, Ga.

At the same time with the American Public Health Association meeting, the Sanitary Council of the Mississippi Valley and the Quarantine Convention held their annual sessions.

The Muhlenberg Hospital is the name of a new institution, nearly completed, in Plainfield, N. J. The board of managers have completed the organization of the medical board as follows:

Medical Board.—Dr. H. D. Burlingham, Physician-in-Chief; Dr. Chas. A. Hart, Surgeon-in-Chief; Dr C. H. Stillman, Consulting Physician; Dr. J. E. Janvrin (New York), Consulting Surgeon; Dr. C. M. Field (Bound Brook), Consulting Surgeon. *Medical Service.*—Dr. J. B. Probasco, Dr. T. H. Tomlinson, Dr. W. C. Boone. *Surgical Service.*—Dr. M. B. Long, Dr. G. W. Endicott.

The building will accommodate twenty patients.

The Miracle-Cures at Lourdes and Knock.—Something of a sensation has of late been aroused regarding the subject of the reputed miraculous cures at Lourdes, in France, and at Knock, in Ireland. Some remarkable cases have been reported in the daily papers. An eminent Episcopalian divine, Dr. Stephen Tyng, Jr., has announced from his pulpit that he has visited both places, has examined into the occurrences, and believes in their supernatural character. The *New York Times*, in an editorial comment, gives what is apparently meant as an endorsement of Dr. Tyng's belief. Of course, the religious weeklies have taken their share in the discussion, generally repudiating the phenomena altogether.

The two localities in question have obtained a remarkable reputation, and there is the profoundest confidence in their virtues among faithful Catholics, as well as many others.

The question of whether or not miracles do occur there is not worth discussing. The matter is a very interesting one in its psychological aspects, however, and undoubtedly would well repay any careful and scientific study that might be put upon it. Unless the numerous instances of relief obtained are entirely fictitious, which is highly improbable, the influence of the mind upon the body and the power of "expectant attention" are vividly illustrated in some of these "miraculous" cures.

State Emigrant Lunatic Asylum.—Dr. Louis L. Seaman was appointed Superintendent of the State Emigrant Lunatic Asylum on Ward's Island, in place of Dr. S. Feinberg, resigned.

A Prince Earning his Living as a Physician.—It is stated that Charles Theodor, Duke of Bavaria, who recently received a medical degree, has successfully performed his second operation for cataract. A correspondent of the London *Telegraph* writes concerning him:

"The prince is a regular attendant at Prof. Arlt's lectures on diseases of the eye, and has in no respect relaxed the arduousness of his studies since he has become a regularly licensed member of the Faculty. Indeed, if reports speak truly, his Royal Highness, Dr. Charles Theodor von Wittelsbach, is fairly on the way to attain high rank among the more eminent practical oculists of Southern Germany. In choosing so noble a profession, not as a mere pastime, but with the high resolve of alleviating human suffering, this illustrious gentleman has set a splendid example to his fellow-princes, the majority of whom, unfortunately, have hitherto displayed a greater predilection for the study of science aiming at the destruction rather than at the saving of life."

Original Lectures.

ON THE VALUE OF

PARTIAL INTOXICATION IN THE PREVENTION OF SHOCK DURING OPERATIONS.

A Clinical Lecture.

By STEPHEN SMITH, A.M., M.D.,

SURGEON TO BELLEVUE AND ST. VINCENT'S HOSPITALS, NEW YORK

Gentlemen—This young lady is about to submit to an operation for the removal of dead bone from the region of the hip-joint, the result of long-continued disease at that articulation. I shall reserve to another occasion the discussion of some interesting questions bearing on the management of this and similar cases, and occupy the few moments allowed me in explaining what is to you the most prominent feature of her case, viz., unusual good humor and vivacity, as compared with young women brought into this room for serious operations.

As you notice, she is in an extremely happy frame of mind for one evidently so sensitive and excitable. Her face is flushed, her eyes suffused, her skin warm and natural, her pulse full and slow, her breathing quiet and undisturbed. Although she has been in great dread of being brought into your presence, and of undergoing an operation, yet she talks and laughs like one whose nervous system was simply exhilarated by the society of friends or the stimulus of an exciting but agreeable scene.

The explanation of her condition is this: she is partially intoxicated, or "half seas over," using a common but expressive phrase. We have purposely brought her into this state in order to prepare her for the operation. During the last five hours she has been supplied with whiskey at regular intervals, until she has taken six ounces, when the desired effect was secured, viz., partial intoxication. She is perfectly rational when you talk with her, and knows her condition, but is disposed to regard everything you may say as ludicrous—that is, she is insensible to danger, and in the most hopeful state of mind and body, in good condition for the operation.

My justification for this treatment is based on no inconsiderable experience. It happens, not very unfrequently, as some of you have witnessed, that operations are interrupted by the sudden and unexpected collapse of the patient. The surgeon may have reached a point, perhaps, at which there is a slight hemorrhage, when the patient quickly passes from a state of proper narcosis to that of profound prostration. The face assumes a deathly pallor, large drops of sweat start from the forehead, the skin becomes cold and clammy with perspiration, the breathing is irregular and scarcely perceptible, the pulse is feeble, rapid, and irregular, and every sign and symptom indicate immediate dissolution. The operator and attendants are alarmed, the operation is abandoned, and all hands and heads are turned to avert impending death. In the belief that too much ether has been given the anæsthetic is withdrawn, the chest is violently compressed under the pretence of causing artificial respiration, brandy or ammonia is injected under the skin, and at length the patient usually recovers sufficiently to allow of the rapid completion of the operation. But occasionally death supervenes despite the most persistent efforts to prevent it. If the patient recover from the depression, convalescence is slow and tedious, and the operation wound heals tardily and with an unusual tendency to suppuration.

An attack of this kind is not narcosis from anæsthesia, but shock, and generally in its most aggravated form. It occurs especially in those of great nervous susceptibility, or who have already suffered severely from the shock of injury, or who are prostrated by the exhaustion consequent upon long-continued illness, suppuration, or other cause.

As a preventive measure against shock in these cases, during an operation, partial intoxication of the patient with whiskey, brandy, or rum, will be found safe and reliable, and far preferable to quinine, opium, etc. The patient who has been laboring under great excitement in anticipation of the operation gradually becomes quite indifferent, or even bold and daring; the pulse is full and slow; the respiration undisturbed; the ether is quietly inhaled; but little, comparatively, is required; the stage of excitement is brief, or is passed without a struggle. During the operation, however prolonged, the pulse varies but slightly, unless there is a considerable loss of blood, and even in that case it maintains sufficient force to allow the operation to proceed to its completion. After the operation the pulse maintains its vigor, there is slight if any reaction, and the temperature remains nearly normal for the first twenty-four hours.

This practice is based upon the experience of surgeons anterior to the period of the use of anæsthetics. With them it was a well recognized fact that persons partially intoxicated at the time of the accident which necessitated the amputation, not only bore the operation with slight evidence of pain or shock, but made the best recovery. In a case of this kind I was impressed with the behavior of the patient. A man partially intoxicated entered the hospital with a crushed foot, which necessitated the amputation of the leg. He was talkative and quite indifferent both to the accident and to the proposed operation. Though the injury had occurred two hours before admission, there were but slight evidences of shock. His pulse was full and little excited, the skin was warm, the respiration undisturbed. I took advantage of his condition to amputate immediately. It was noticeable that he required but very little ether, that his pulse and respiration did not vary; in a word, that there were no evidences of shock. For twenty-four hours after the operation his pulse remained undisturbed, his skin warm and natural. He recovered within a period less than that usually occupied by similar operations.

The first case in which I purposely induced partial intoxication to prevent shock occurred many years ago. The patient was a young woman of naturally great nervous susceptibility, who was reduced to a very feeble condition by long-continued suppuration from caries of the tarsus. Amputation was advised, and although she was extremely anxious to have the operation performed, yet when the effort was made her excitement was so great that it was deemed dangerous to proceed. Twice she was placed upon the table, and the anæsthetic, at one time chloroform and ether at the other, was administered; but her pulse became so rapid and feeble, her respiration so embarrassed, her lips becoming purple, that the operation was abandoned. Finally, as a last resort, it was determined to give stimulants several hours before the operation, and until she was decidedly intoxicated. The result was most happy.

When she had taken eight ounces she was in the condition of this patient, quite indifferent to the operation, her pulse was full (at 96), and her respiration tranquil. But a very small amount of ether was required, the amputation was performed, the limb was dressed, and she was placed in bed. There was no variation in the pulse or breathing during the operation, nor for twenty-four hours after. She did not discover that the amputation had been performed for sixteen hours, and, on learning the fact, was overjoyed. She made a rapid recovery.

There is another class of cases that is very favorably affected by stimulants taken during several hours preceding an operation, to the extent of partial intoxication. They are persons suffering from an enfeebled condition of the heart, and are noticeably overloaded with fat. They are very liable to succumb to even a very slight shock of the operation, when combined with the effects of the anæsthetics. The face rapidly becomes dusky, the lips purple, the respiration embarrassed, and the pulse feeble and irregular. Efforts at resuscitation sometimes prove unavailing, and the patient dies upon the table. As a preventive measure we usually give an ounce or two of whiskey just preceding the operation, and doubtless it often does prevent disaster, by arousing the heart and invigorating the circulatory organs. But such results are far more likely to be obtained if the stimulus is steadily given, in quantities suited to the condition and habits of the patient, for several hours preceding the operation. Reverting again to our patient, I must state that she is eminently a proper subject for this preparatory treatment. She entered the hospital a fortnight since, suffering from suppuration throughout the thigh, due to extensive and long-existing caries at the hip-joint. She was cadaverous in appearance, had irregular chills followed by profuse perspiration, a rapid, feeble pulse, and no appetite. Under an active tonic treatment her general condition has improved, but she is not in a state to bear safely the slightest depression from shock. The effect of the stimulant has been to give more strength and steadiness to her pulse, a warmer skin, and more cheerfulness than at any time since her admission. I do not doubt that she will bear the operation well, and that there will be no shock, unless there should be a sudden loss of a very large amount of blood. The plan which I pursue is to commence the intoxicant five or six hours before the operation, and give one, two, or three ounces every hour, according to the habits and condition of the patient. This patient required six ounces of whiskey to bring her into her present state, the first ounce having been taken six hours ago. A few days since, an old drinker required sixteen ounces to induce the condition of this young woman. I have always used whiskey, and have occasionally given it in the form of milk-punch.

[It should be stated that during the operation the patient required but little ether; the pulse continued at 96, full and soft; the respiration was undisturbed. After the operation the pulse and respiration continued unaffected; there were no evidences of shock; no fever supervened; suppuration rapidly subsided; her general condition improved surprisingly, and in two weeks she resumed her hip-splint.]

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A Biological Club has been organized in Washington. It includes some of the prominent medical men of the city, and many of the naturalists connected with the Smithsonian Institution.

Original Communications.

CHLORAL HYDRATE.

By H. H. KANE, M.D.,

NEW YORK.

DEATHS FROM CHLORAL.

To one unacquainted with the literature of the subject the number of recorded deaths from chloral hydrate is astounding and greatly to be deplored, as in the majority of instances they have been due to ignorance or carelessness on the part of physician or druggist.

It has been asserted by some that susceptibility to the poisonous effects of chloral is in direct ratio to the cerebral development of the animal or man. This is, at best, a supposition, and is in great need of positive facts to support it.

The following are the most important cases of death of which I have been able to obtain any reliable information, and they supplement, very aptly, what has been said regarding poisoning by chloral hydrate.

Dr. Chas. A. Hart[*] gave twenty grains to a patient suffering from neuralgia. Death followed in thirty minutes, probably from failure of the heart.

G——[†] gives the case of a man aged forty-nine years, with ulceration of the mucous membrane of the bladder, and bronchial trouble, where fifteen grains of chloral hydrate seemed to cause death. He had a horror of chloroform, and in fact, of all narcotics, believing that he was nearly killed once by chloroform. He died suddenly while at stool, fourteen hours after having taken the dose. There was no autopsy, and the facts do not warrant us in saying that death was due to the small dose of chloral.

Dr. H. W. Fuller[‡] reports the case of a young lady in excellent health, who, for sleeplessness, was given thirty grains of chloral. It at first produced pain and burning in chest and considerable excitement. This passed off and she fell asleep. Became pulseless, with cold extremities. Responded somewhat to stimulants and warmth, but never regained consciousness. Dose given 10 P.M. of the 31st of December. Died January 2d, about 9 A.M.

Mr. Tuke informed the author of the case of an intemperate man who nearly died from the same dose. A similar case, in an old man, was related to him by Mr. Fred. Webb.

In the last *American Practitioner* is recorded an instance of remarkable and fatal susceptibility to chloral. A physician of Louisville was called to a healthy-looking woman threatened with premature labor, and gave her fifteen grains of chloral every fifteen minutes. Four doses were taken, the last being increased to twenty grains, making sixty-five grains in all. Soon after she sank into a profound stupor with slow and stertorous breathing, scarce perceptible pulse and cyanosed skin. Atropia, strychnine, whiskey, strong coffee, carbonate of ammonia, electricity, etc., were used, but without benefit; she died next day. Premature delivery occurred some hours before death; the child was still-born.[§]

Ingalls[‖] reports the case of a perfectly healthy

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[*] N. Y. Medical Record, 1871, p. 164.

[†] Lancet, June, 1871.

[‡] Ibid.

[§] Western Lancet, January, 1880.

[‖] Chicago Medical Examiner.

German woman who was given ten grains of chloral to dull the pain of having a tooth drawn. In an hour's time she was given ten grains more, twenty in all, and she soon fell into a state of coma and died despite every effort to save her.

Dr. Samuel T. Hubbard * reported to the New York Academy of Medicine the case of a lady who had an old prescription for chloral hydrate renewed, took ninety grains and died. No autopsy.

Dr. A. R. Kilpatrick of Navasota, Texas, writes: "A druggist who had suffered long with fistula was unwilling to submit to an operation without an anæsthetic. The physician who was to perform the operation was an enthusiastic advocate for chloral, in all cases preferring it to chloroform. The patient was in favor of chloroform, but the doctor induced him to substitute chloral. Everything was made ready and the chloral was administered in unknown quantities, as he, the doctor, poured out the salt in his hand and poured it in a goblet, made the solution and gave two or more doses. (?) As the patient became insensible, a thorough examination of the fistula was made, which he never would submit to before, and it was found there was either tubercular or cancerous complication. At this stage of the proceedings the patient became blanched and cyanosed, the respiration was impeded, and other marks of dissolution were present. All efforts at restoration failed, and the patient died. It was known that one or both lungs were tuberculous. This was in 1871. There was no autopsy. It was believed, and so stated by some of the physicians present, that the patient probably took over two hundred grains, or perhaps more, of the hydrate of chloral, in a space of time not over two hours."

Another case of death from an overdose of chloral hydrate may be found in the London *Lancet*, February 27, 1875, also in the *Medical Press and Circular*, November 12, 1879, the victim being a physician, a Dr. Wm. Hay, a well-known practitioner at Carlisle.

Dr. J. W. F. Webb, of Liberty, Miss., writes me of two deaths from chloral hydrate occurring near that place. One was that of a physician who believed that chloral was harmless in any dose, took 480 grains, and paid the penalty of his ignorance with his life.

F. Jolly † (*Bayer. aerztl. Intell.-Blatt*) states that, in the course of two years, during which he has employed the hydrate of chloral in the treatment of the insane, he had met with two cases of sudden death following its use. The dose was in each case below the average, and the drug was chemically pure. The patients during life presented no contra-indications to the use of the remedy. One had taken chloral at night for four evenings in succession. On the fifth evening after taking it the respiration and circulation at once ceased. The necropsy showed anæmia of the brain, acute œdema of the lungs, hyperæmia of the abdominal organs, a perfectly healthy heart and vessels, and dark fluid blood.

In the other case chloral had been given twelve days in succession, with the effect of producing sleep, after a short stage of excitement. On the thirteenth day the patient died, after some stertorous breathing, a quarter of an hour after the dose. There was found moderate œdema of the lungs; blood was fluid, and normally distributed; the heart was large and flabby, and its muscular structure was pale but not friable.

Prof. Nathan R. Smith reports * a case of death from 180 grains of chloral in divided doses. The same gentleman reports another case where death was caused by chloral after a subcutaneous injection of morphia.

Wm. Bragg, of Brooklyn, aged twenty-seven years, worn out with watching a sick father, saw a bottle labelled "Hydrate of Chloral;" sent to the drug store and had it filled, took ninety grains, and died. Coroner's jury censured druggist.†

Dr. T. C. Finnell ‡ reports the case of a ballet girl, aged twenty-three years, who aborted at six months. Little hemorrhage, and patient seemed doing well. Somewhat restless. Attending physician, to procure sleep, gave about ℥ ss. chloral at 10 A.M. Slept well. Dose repeated by husband, according to the doctor's orders, at 8 P.M. Half an hour later the woman died. The friends noticed that after the first dose she became cold, and that after the second the coldness suddenly became alarming, when she died.

At the autopsy, fourteen hours after death, the weather being intensely cold, and the body being kept in a cold room, Dr. Finnell was surprised to find marked evidences of decomposition—even more than that found in bodies of persons dying of sunstroke in hot weather. Only the abdominal and pelvic cavities could be examined, owing to interference of friends. Everything was found perfectly healthy.

Members of the Pathological Society, before whom the history of the case was read, were of the opinion that no conclusions could be drawn from it, owing to the imperfection of the autopsy and the fact that no inquiry had been made as to the purity of the drug.

Dr. Edward Bradley, of this city, writes me of a case where 240 grains were taken for suicidal purposes with success.

Death from 480 grains in an hour's time is reported in the *Pharmaceutical Journal*, July 2, 1870.

Dr. G. G. Davis, Frewsburg, N. Y., writes, but can give no particulars, of a case where fifteen grains proved fatal. It was given to quiet sleeplessness of consumption. The coroner's jury decided that death was due to the chloral. It occurred near Pittsburg, Penn.

In the *Journal of Psychological Medicine*, for 1871, Dr. Geo. C. Needham reports a case of death from chloral. The lady, a very nervous and excitable woman, was seen by Dr. Needham, who called Dr. Wm. A. Hammond in consultation in November. He found the retinal vessels, especially the veins, enlarged, tortuous, and increased in number, and was of the opinion that there was a condition of passive cerebral congestion present, and that there was a strong hysterical diathesis existing in the patient. He recommended chloral hydrate for this condition. This drug, with potass. bromid. and zinc. oxid., was used with apparent benefit. A seton was also put in the nape of the neck. This in February.

In October she became again worse, being extremely violent, due to the circumstances attending the death of a relative. Her condition being apparently the same as in the preceding fall he ordered chloral. On the day before taking chloral she had had 115 grains potass. bromid., and was strongly under its influence. The chloral was put up by a reliable druggist in the doctor's presence. He gave in all six doses, a part of each dose being spilled in giving. On the 21st October she had two doses, thirty grains each; on the 22d the same; on the 23d three doses, same; in all, 210 grains.

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* N. Y. Medical Record, 1871, p. 379.
† Ibid., 1872, p. 324.

* Boston Medical and Surgical Journal, 1871.
† N. Y. Medical Record, 1871, p. 134.
‡ Ibid., p. 91.

She was found sleeping on the 22d, also at two visits on the 23d. On the 24th he became alarmed at her prolonged sleep, and endeavored to awaken her. In this he was only partially successful. Pulse, 108; respiration, 27. Pupils moderately contracted. Did not respond to calling or any irritation. Three subcutaneous injections of strychnia (one-thirtieth grain each) were given during night of 24th. Breathing 28–30, somewhat stertorous; catarrhal accumulations in fauces. Pulse, 108–110, strong but not full. Pupils contracted. Some voluntary motion of limbs slight during day; more pronounced during night. At 4 A.M., 25th, time of last injection of strychnia, she grew worse. Pulse, 120. Temperature of head slightly diminished. Died at 3.55 P.M., comatose.

Autopsy, six hours after death. Head alone examined. Made by Dr. T. M. B. Cross, Resident Physician New York State Hospital for Diseases of the Nervous System. No traces whatever of previous inflammation.

"The vessels of the pia mater were enormously enlarged and gorged with blood, and there were very many more of them visible than are seen in a normal brain. In the meshes of this vascular membrane there was infiltrated a sero-gelatinous exudation, more marked along the course of the arteries and veins than elsewhere, and which appeared to be in the arachnoid, but this was not the case." Cerebrum normal, save for excess of blood. No fluid in ventricles. Blood present in very marked excess.

"The pons varolii was surrounded by such a plexus of capillaries that its tissue proper could hardly be distinguished. All the sinuses of the brain were, like the longitudinal, completely filled with blood." The ganglia, crura, choroid plexuses, nerves, and all other parts abnormally vascular, otherwise normal. Blood in vessels more or less coagulated, but no rupture and no extravasation found.

There had been suspicion of heart disease by a physician who had previously attended her, but Dr. Needham had examined the chest several times, and could find nothing.

If it was not for the theory that chloral acts by transformation into chloroform, Dr. N. would believe that the lady was killed by the cumulative action of the drug.

He says, also: "It seems to me not unlikely that it will be found dangerous to administer the full dose of chloral immediately after the suspension of a long course of bromide of potassium, since the power of the latter to contract the cerebral vessels must tend to diminish their natural contractility, and the reaction therefrom may allow of so great an increase of the normal primary effect of the chloral as to produce fatal congestion."

This is negatived by the case of an epileptic boy (Hammond), who took 75 grs. chloral, with benefit, daily, for fifteen days. He had previously been upon the bromides.

Dr. Schlangenhausen, First Asst. Phys. to the Lunatic Asylum, Hall, Tyrol, reports* two cases of death, possibly from chloral hydrate. In one, a hard drinker, death followed two doses (60 and 30 gr.) in an hour's time. The drug was given to quiet very severe delirium. The autopsy showed acute œdema of the brain.

In the other case, that of an insane lady, aged forty-five years, who had been using chloral for some months in daily doses of 2 grammes, death took place four hours after a dose of 60 grains. Autopsy showed chronic hydrocephalus, with hypertrophy of the heart and mitral insufficiency.

Dr. Willis P. King, of Sedalia, Mo., writes me of a woman who was given 40 grains to produce anæsthesia sufficient to permit the extraction of a tooth. She was twenty-eight years old, and healthy. The dose was repeated in twenty minutes (80 grs. in all). She passed rapidly into profound coma, with rapid pulse, cold extremities, clammy perspiration, etc., and died within an hour. No autopsy. The physician ran away.

A physician in New Hampshire sends me the details of a case where a patient, who had used moderate doses of the following when necessary, took one-half of it at one dose:

℞.	Chloral hydrate.................	℥ iij.
	Potass. bromid.................	℥ iv.
	Morphiæ sulph.................	gr. vi.
	Ext. belladonnæ.................	gr. iij.
	Aq................................	℥ iv.

Patient was insensible in fifteen minutes, and died with all the symptoms of chloral-poisoning, despite the most approved treatment. He rallied for a time under atropia, but finally sank. This case was reported in the *Boston Med. and Surg. Journal* for April, 1879, and the amount of chloral erroneously made ʒ iij. instead of ℥ iij.

The following letter from Dr. John Bowen, Resident Physician at Riverside Hospital, New York city, explains itself:

"I have known of three deaths which I attribute to chloral. The patients were all cases of chronic mania, in good physical condition, and the drug was given at night to prevent them from making a noise The amount given could not be reliably ascertained It was prescribed by an associate in gr. xx. doses and left with a night nurse, with directions to repeat it in an hour if necessary. In each instance the patient was found dead by a day nurse, on entering the room next morning. In one instance the patient was sitting in a corner of the room. She had evidently been dead for several hours, as the body was cold and stiff. In each of these cases I made an autopsy. There was in every case a large black clot filling the right ventricle of the heart The other organs, including the brain and cord, were perfectly normal to the naked eye, and nothing could be found to account for death. As all of these cases occurred in the service of the same night nurse, and there was an absence of anything else to account for death, the inference is that she gave the medicine in larger doses, oftener, and at shorter intervals than was directed, and the patients becoming quiet, she did not again enter their rooms, and thus they were not discovered until next morning.

Dr. R. Hazlehurst, of Brunswick, Ga., reports (by letter) a case of death from 125 grains, taken without medical advice.

Habitual users of the drug often take an overdose with fatal results. Such a case is reported (by letter) by Dr. F. B. Florentine, of Saginaw, Mich The patient, a lady, in this instance, however, took an enormous dose, 240 grains, probably with the intention of committing suicide. She died. Dr. Florentine was called too late to be of any service.

Death from 130 grains,* and from 125 grains,† sold freely by a druggist to an habitué, is reported; also in unknown quantity with chlorodyne;[*] also another case, quantity unknown.[†]

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* By letter.

* Lancet, April 21, 1877.

† Ibid., January 22, 1876.

A medical student was in the habit of taking chloral hydrate in large amount to procure sleep. One night he took ninety grains, from which he died.[‡]

The *British Medical Journal*[§] commenting on the death of Dr. Mercer from chloral, points out that scientific opinion inclines to the view that chloral hydrate, when taken continuously for some time, even in moderate doses, exercises a paralyzing influence over the vaso-motor nervous system, and leads to a failure of the heart's action. This effect may occur suddenly without any serious warning, and it is thought not improbable that in some cases in which it has been assumed that because death supervened, an excessive quantity of the drug had been taken, the assumption has been groundless. It may have been that the ordinary dose had been adhered to, but that the cumulative weakness which its oft-repeated action had induced, ended in the stoppage of the vital processes.

Dr. J. H. Hughes, of St. Louis, Mo., the talented editor of the *Alienist and Neurologist*, writes: "Several cases—not less than five—of sudden death, apparently from heart-paralysis, in persons who had become chloral habituates, and had become accustomed to take the drug *ad libitum*. They were under no physician's treatment at the time."

Dr. A. Atkinson, of Baltimore, reports, by letter, a death from sixty grains of chloral, that occurred in the practice of another physician.

The death-rate from this cause among alcoholic subjects is large, partly, perhaps chiefly, because through ignorance and rashness they take the drug in enormous doses, and partly because, owing to continued debauch the system, especially the vascular, is so weakened as to be unable to withstand the effect of so powerful a drug.

The following is kindly sent me by Dr. A. Ady, of Logansport, Indiana, who clipped it from the *Cincinnati Commercial* of June 13, 1880:

> DEATH FROM CHLORAL.—Ottmer Hill, a printer, who had worked in nearly all the German printing offices in this city, died suddenly, yesterday afternoon, in his room in the third story of No. 21 Woodward Street. He had been a hard drinker, and addicted to the use of hydrate of chloral. Yesterday he swallowed a large quantity at a dose, whether in a fit of delirium or with suicidal intent is not known, but it caused his death.

Dr. A. R. Griffiths, of Oil City, Pa., has sent me a copy of the *Oil City Derrick*, in which is related a death, from an overdose of chloral, in an alcoholic subject who had been on a three weeks' spree. He took about 200 grains at one dose and died.

Dr. Geo. C. Catlett, of the Lunatic Asylum, St. Joseph, Mo., states[||] that he knows of three well-authenticated cases where death ensued from ordinary doses of chloral hydrate in delirium tremens. No particulars are given.

Dr. Hugh Norris reports[¶] the case of a lady, aged forty-six years, who was addicted to the use of liquor. He gave her chloral for hysteria and spinal irritation. She continued its use herself. She took 712 grains in nine days, 260 grains of which was taken within thirty-five hours. Death sudden. Pupils dilated. No abnormality of any organ sufficient to account for death. No congestion of the brain.

In the London *Lancet* for October 20, 1877, is given the case of a drunken woman who took an overdose of chloral and died; and in the same journal of December 7, 1872, another death from 400 grains, prescribed by a druggist, is given. The *Islington Gazette*,[*] May 5, 1872, records the death of a man from forty grains of chloral and forty gtt. tinct. opii., taken after a spree, for the purpose of "tapering off."

Dr. C. T. Jewett, of this city, tells me of the case of a young man aged thirty-five years, suffering from acute alcoholismus. He ordered for him a mixture containing 300 grains of chloral. The patient outwitted his attendants, took the whole amount in fourteen hours' time, getting 120 grains at one dose. He died.

Dr. S. Barruch, of Camden, S. C., writes me of the case of a young man who died from the effects of a dose of eighty grains taken at the end of a spree to quiet nervousness.

Dr. A. P. Brown, of Jefferson, Texas, writes me of three cases of death from chloral in drunkards. Amount taken not known.

Dr. Carroll,[†] of the United States Army, relates in the *Medical Times* the case of an inebriate who took, at one dose, an ounce of chloral with suicidal intent. He died. Autopsy revealed fatty degeneration of the heart and liver.

Dr. James Perrigo, of Montreal, Canada, writes me of the case of an old tippler who is supposed to have died from the use of this drug. He had been on a spree for five weeks, and in trying to stop took a dose of chloral and died.

Dr. William G. Wilson, Assist. Surgeon, U.S.A., Fort Niagara, Youngstown, N. Y., writes me of two cases of death: one, a surgeon in the United States army, who died from a dose of sixty grains. He was a hard drinker. The other was a stout, healthy soldier, who was brought to the post hospital, Fort Brown, Texas, in the spring of 1871, suffering from an attack of delirium tremens. After an emetic had been given and had acted, thirty grains of chloral was administered. It did not produce sleep, but in the course of an hour the patient died suddenly. Dr. Wilson says: "Though the case was reported as a death from delirium tremens, I have always, since I became acquainted with the effects of chloral, been more and more convinced that his death was the result of the drug."

(To be continued.)

NEPHRO-LITHOTOMY is an operation which has recently been successfully performed, for the first time, upon a healthy kidney, by Mr. Henry Morris. The disease was nephritic colic. The presence of a stone was suspected, and incision being made an oxalate-of-lime calculus weighing thirty-one grains was removed from the pelvis of the kidney. The case was especially important, because it showed that a healthy kidney could be cut into without exciting hemorrhage or causing a urinary fistula. The facts established by Mr. Morris will doubtless lead to a more frequent employment of the operation. Even in case the diagnosis proves false, and upon exposure of the kidney no stone is found, no harm need ensue, for the wound readily heals and the counter-irritation produced by it has a beneficial effect.

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[*] Lancet, October 4, 1879.

[†] Ibid, September 1, 1877; also Ibid., October 14, 1876.

[‡] Medical Times and Gazette, April 5, 1873.

[§] Druggists' Circular, April, 1877.

[||] New York MEDICAL RECORD, 1876, p. 436.

[¶] Lancet, May, 1871.

[*] Lancet, May 11, 1872.

[†] Druggist's Circular and Gazette, February, 1879.

FACTS AND FIGURES ON CEREBRAL THERMOMETRY.

By R. W. AMIDON, M.D.,

NEW YORK.

During the last few months decided scepticism has been evinced on the part of many medical men and journals as to the value of cranial temperatures as an indication of temperature changes in the underlying brain. This widespread scepticism had its origin in the results of experiments performed by M. François Frank, of Paris, communicated to the Society of Biology of Paris, and published in the *Progrès médical* of Paris, June 5th and 26th, and in the *Gazette médicale* of Paris, July 3, 1880, and quoted in the London *Lancet*, August 21, 1880, the *American Journal of Insanity*, July, 1880, and the *Journal of Nervous and Mental Diseases*, October, 1880.

The experiments referred to were intended to ascertain the exact conductibility of the cerebral envelopes to heat.

The experimenter heated the internal surface of human skulls by placing them over a box of hot water, by passing hot water through a coil of lead pipe laid against the dura mater, or, in living dogs, by the lead coil or injection of hot water into the brain itself.

Knowing the temperature of the water applied internally, he sought by thermometers externally applied to ascertain the exact conductibility of the cerebral envelopes. Through fresh bone 3 mm. thick he obtained in fifteen minutes no rise of temperature by injecting water the temperature of which had risen one degree (C.). 2° internal elevation produced a doubtful $\frac{1}{20}$° externally; 3° internal elevation caused $\frac{1}{15}$° externally; 4° internal elevation caused $\frac{1}{5}$° externally; and 5° caused $\frac{7}{10}$° external rise. He found about the same resistance manifested by the skin, and so we see if we put the dura mater, skull, and scalp together, making in all about 10 mm. of tissue, it would necessitate an internal elevation of 6° (C.) to cause an elevation externally of $\frac{1}{20}$° (C.). He arrived at almost identical conclusions from his experiments on living dogs, and concludes that the cerebral envelopes are such excessively bad conductors of heat that cranial thermometry can hardly be accepted as any indication of cerebral temperatures. Knowing that, if M. Frank's experiments were correct, all our deductions from cerebral thermometry, clinical, pathological, and physiological, were worthless, I resolved to repeat them.

My first experiment, in which I was aided by Professor E. C. Seguin and Dr. W. R. Birdsall, consisted in thrusting a coil of lead tube through the brain against the dura mater of the human head, in injecting warm and hot water through this coil and noting by surface thermometers placed on the shaved scalp any external rise of temperature. It was noted that quite hot water had to be injected for a long time (fifty minutes) before even a small external rise took place.

It was then remarked by Professor Seguin that the lead pipe was an excessively poor conductor of heat, and on examination it was found that while very warm water was circulating through the tube the surface of the tube was hardly warm to the touch. For this reason alone all of M. Frank's experiments with the lead tube ought to be disregarded, for while the conductibility of gold is 1000, that of lead is only 179, and hence entirely unfitted for such an experiment, unless its resistance was calculated.

To obviate this objection I next employed injections of warm water against the *dura mater itself* by means of a glass tube, open at one end and closed at the other by a cork through which passed two pipes. The open end of the tube rested against the dura mater (see Fig. 1); while through one tube warm water was injected by means of a bulb-syringe, from the other the water again escaped. By this means a constant stream of warm water was forced against the internal surface of the dura mater. The temperature of the water injected was denoted by a thermometer lying all the time in the receptacle from which it came, while the external variations were marked by a surface thermometer placed on the shaven scalp directly over the mouth of the glass tube. The results of an experiment in which I was aided by Professors Seguin and Mary Putnam-Jacobi and Doctors A. B. Ball and W. R. Birdsall will be narrated in full detail with an explanatory chart.

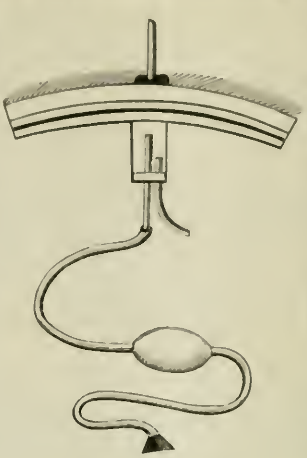

Fig. 1.

The dura mater, skull, and scalp were warmed in a water-bath to the temperature of 95.5° F. (35.3° C.), Then injection of water at the temperature of 117.5° F. (47.5° C.) was commenced. In six minutes the temperature of the injected water had fallen to 117° F. (47° C.), while the surface of the scalp had warmed ¾° F., standing at 96.25° F. (35.7° C.). In the next two minutes the temperature of the water had fallen ⅓°, while the external temperature had risen over ¼° F., and so on till at the end of nineteen minutes the water internally had fallen to 110° F. (43.37° C.), while the external thermometer indicated 97° F. (36.2° C.). At this point the water was allowed to

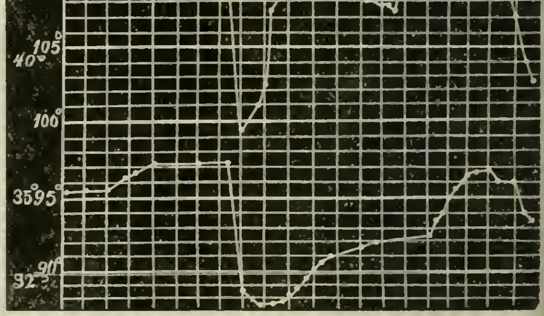

Fig. 2.

cool down to 99.5° F. (37.5° C.), when the external thermometer indicated 88.5° F. (31.5° C.). At this time the water injected was rapidly heated to ascertain the length of time consumed by the heat in traversing the cerebral envelopes. The results of this second experiment are depicted in the accompanying chart, where the higher curve denotes the internal, while the lower denotes the external temperatures which were read by Professor Seguin.

In the first two minutes, while the water rose 1.5° F. the surface fell 1.25° F. At the fourth minute the water stood at 102.5° F., 39.2° C., while the external temperature had fallen another .25° F. (to 87° F., 31° C.). At the *fifth* minute, however, the water having already attained the temperature of 107.5° F. (41.9° C.), the surface temperature began to rise. This rise shows that the length of time consumed by the heat in traversing the cerebral envelopes is about five minutes, which is singularly in accord with most experiments on living subjects. During the next fifteen minutes, while the water oscillated from 111° F. (43.9° C.), to 107.5° F. (41.9° C.), the external temperature gradually rose to 92° F. (33.4° C.), making an external rise of 5° F. (3° C.), to correspond to an internal rise of 8.5° F. (4.5° C.).

At this time, the twentieth minute of the experiment, the temperatures stood—internal, 107.5° F. (41.9° C.); external, 92° F. (33.4° C.); and the water was again suddenly heated in eight minutes, the temperatures reaching—internal, 122.5° F. (50° C.); external, 95° F. (35° C.).

From this time the water was allowed to gradually cool, the external temperature continuing to rise until it attained, four minutes after the maximum internal temperature was reached, the temperature of 97.5° F. (36.4° C.). From that time till the end of the experiment both temperatures gradually sank, the internal much faster, till, at the hundredth minute, the water internally stood at 99° F. (37.25° C.), while the external temperature was 87° F. (30.75° C.).

A careful compilation of this and other similar experiments, not inserted, demonstrates the following facts:

1st. That heat can be transmitted through the dead human cerebral envelopes in very appreciable quantities.

2d. That it is better transmitted when the envelopes are themselves warmed to more nearly simulate the living textures (see first and second part of above experiment).

3d. That the rise of temperature commences externally in from four to eight minutes after the internal elevation, and attains its maximum in from eight to twelve minutes, and that the fall of the two temperatures pursue the same course.

4th. The average of eighty temperatures taken shows a ratio of the internal temperatures to the external of 2 : 1.

This ratio is much diminished when the media are warmed, hence it is natural to suppose that in the warm, living state the ratio would be smaller still.

I take great pleasure in bringing these data, corroborated by such observers as Jacobi, Seguin, Ball, and Birdsall, before the medical public, and contend that these results, carefully ascertained as they were, give our long and tenderly cherished cerebral thermometry a new lease of life.

It is now nine months since I publicly announced my conviction that willed muscular movements caused a rise of temperature on the opposite side of the head. Decided opposition has met this assertion on many sides, but I still assert the *fact*. M. Paul Bert (*Progrès médical*, May 1, 1880) and M. François Frank (*Gazette médicale*, July 3, 1880) assert that they have performed the experiment with complete failure. Let me here insert the tabulated result of an experiment performed in the presence of Drs. Thomas A. McBride and William H. Halsted, at 5 P.M. on Tuesday, December 7, 1880.

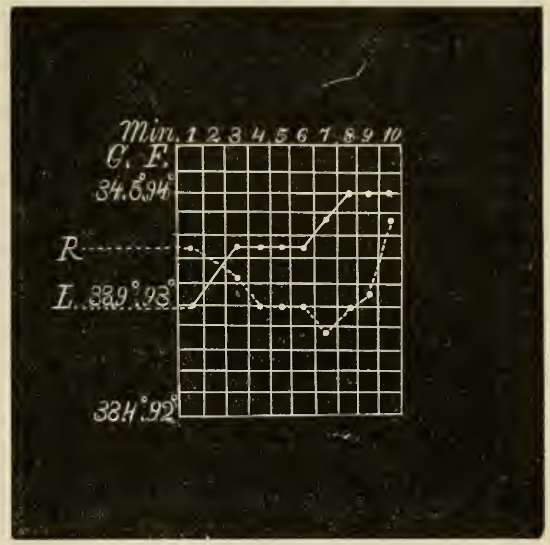

FIG. 3.—Curves of cranial temperatures during willed muscular movements: R, temperature of right, L, of left parietal region.

The experiment was performed in the laboratory of Dr. McBride, and the temperatures were read by him.

The temperature of the room was 56° F. (12.5° C.). The subject was a vigorous boy of sixteen, with close-cut hair. A surface thermometer was placed on each parietal region, 40 mm. to either side of the median line, and 195 mm back from the root of the nose, or 45 mm. behind the bregma. At the expiration of about fifteen minutes the maximum elevation of temperature had taken place and the temperature of the right parietal region was 93.5° F. (34.2° C.), while the left was 93° F. (33.9° C.). At that time vigorous contraction of the right biceps and triceps commenced, and the resulting temperatures recorded every minute are best shown in the accompanying table.

By consulting this chart it will be seen that the temperature on the same side as the movements fell during movements until the sixth minute, and then rose until the ninth minute, when it attained an elevation of ¼° F. higher than when it started.

The temperature on the opposite parietal region, however, rose in the first two minutes, and again from the fifth to the seventh, till at the seventh minute it had attained an elevation of 1° F. higher than it was when movements commenced.

In experiments properly performed I have found the invariable results:

1st. That within the first two minutes a fall of temperature takes place on the same side of the head as the muscular movements.

2d. That this fall continues during the succeeding four or five minutes, and may attain the amount of 1° F.

3d. That at the end of the sixth or seventh minute it begins to rise, and at the eighth to the fifteenth minute will regain its old position, and even, perhaps, a slightly higher one.

4th. That the temperature on the side of the head opposite the muscular movements sometimes slightly falls at first, but on or before the fifth or sixth minute begins to rise, and finally attains a temperature ¼° to 1° F. higher than it started with.

These results are deduced from an immense number of observations, and must be explained as each one sees fit. I myself adduce no theory to explain them. One thing, however, I will say, and that is, if this rise of temperature is produced by cerebral activity (and the time of the commencement of the rise of temperature, after the movements commence, is identical with the time consumed by the heat of water to traverse the cerebral envelopes), the ultimate rise of temperature on the same side may be caused by diffuse radiation from the opposite side—the brain, as is well known, being a good conductor of heat.

A final word as to the cautions to be exercised to make an experiment succeed:

1st. The subject should be strong.

2d. The movements *must be* vigorous.

3d. The hair must be thin or short.

4th. The temperature of the room low (56°-60° F., 12.5°-16° C.) and equable.

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Reports of Hospitals.

PRESBYTERIAN HOSPITAL, NEW YORK.

Service of Dr. ALFRED C. POST.

COMPOUND FRACTURE OF THE SKULL—URGENT SYMPTOMS OF CEREBRAL IRRITATION PROMPTLY RELIEVED BY VENESECTION—AMPUTATION OF HIP-JOINT FOR RAILROAD INJURY—PERINEAL ABSCESS—RETENTION OF URINE.

I send you a report of a few cases which came under my care, during my attendance in the Presbyterian Hospital in the month of August. I am indebted to John A. Wells, M.D., late house surgeon, for full notes of the cases included in the report.

Case I.—*Compound Fracture of the Skull.*—Edward Monroe, aged four years, admitted to Presbyterian Hospital, August 2, 1880. One hour before his admission he fell out of a third-story window, striking his head on an iron spike. On admission there was found to be a compound comminuted, depressed fracture of the frontal bone on the right side. There was a small incised wound under the right eye and there was moderate ecchymosis in the same region. There was a pretty copious oozing of serous fluid from the right ear. As the patient was suffering from the shock of the injury, stimulants were administered.

I saw the patient the same evening, and enlarged the wound by a crucial incision, so as to expose the fracture fully to view. With the aid of a rongeur I removed the bony margin overlapping the depressed fragments, which I then removed with forceps from the surface of the dura mater, which was exposed to view and found to be uninjured. The wound was lightly filled with lint soaked in carbolic acid 1 to 40.

August 3d.—The patient is semi-comatose, but can be aroused so as to take nourishment.

August 4th.—Patient remains in about the same condition. Temperature has not risen above 100°.

August 5th.—Stupor has increased. Respiration has become sighing. Convulsions have supervened. Temperature has risen to 105°; pulse, 160. The wet pack was applied, with ice to the head. Five grains sulphate quinine administered per rectum. In half an hour temperature was reduced to 103°, but it soon rose again, and the patient died in convulsions at 7.30 A.M., August 6th.

Autopsy twelve hours after death. Considerable ecchymosis was found in the tissues of the orbit around the right eye. Beneath the crucial incision, through the integument, there was an irregular opening in the frontal bone of the size of a silver half-dollar. When the scalp was removed, there was found effusion of blood behind and above the middle of the right parietal bone. The sinuses and veins of the dura mater were fully distended with blood, and contained a discolored coagulum which could be drawn out in long strings. With the removal of the dura mater there was an escape of bloody serum around the opening in the frontal bone. Between it and the dura mater there were a number of small fragments of bone, but there was no marked injury to the membranes. All over the convexity of the right hemisphere was a layer of coagulated blood of very dark color. The vessels of the pia mater and arachnoid were deeply congested, but there was no evidence of actual inflammation at any point. When the brain had been removed, considerable bloody fluid remained behind in the spinal canal and the posterior fossæ. Around the right jugular foramen was a large mass of dark coagulated blood. Sections through the brain-substance showed the whole of the brain in a state of deep congestion, the puncta vasculosa being very prominent, and blood and little plugs of coagula oozing from many of them. Each lateral ventricle contained about an ounce of bloody serum. An irregular fracture extended from the opening in the frontal bone backward and inward, across the orbital plate of the frontal and ethmoid bones, terminating in the median line at the junction of the ethmoid and sphenoid bones. Another fracture extended inward and backward through the outer extremity of the lesser wing of the sphenoid to the junction with the greater wing, thence backward and outward across the great wing to the middle of the squamous portion of the temporal bone and the middle fossa of the skull, and thence through the petrous portion of the temporal bone, and finally terminating in the jugular foramen. The length of the fracture, following all its curves, was about eighteen centimetres.

In reviewing this case it is proper to observe that although the early symptoms were not of extreme severity, yet the oozing of serous fluid from the ear rendered it highly probable that there was a fracture through the petrous portion of the temporal bone, and suggested the probability of a fatal termination.

Case II.—*Concussion of the Brain—Dislocation of Head of Femur on Dorsum Ilii—Urgent Symptoms of Cerebral Irritation promptly relieved by Venesection.*—Walter Naughton, aged thirty years; married; conductor on elevated railroad; admitted to Presbyterian Hospital, August 28, 1880. He is a man of very nervous temperament, but of strictly temperate habits. Half an hour before his admission he had sustained a very severe blow in the right temporal region, by striking his head against one of the pillars of a station on the elevated road. The train was running at full speed at the time, the patient leaning over the guard-rail. The force of the blow was sufficient to cause him to turn a complete somersault, landing him on the platform. The left hip struck against the guard-rail. While the patient was being brought to the hospital he had a convulsion with free vomiting. On admission, his pupils were found to be normal, but there was very marked cerebral irritation indicated by extreme restlessness, jactitation, and impatience of restraint. Blood oozed freely from his right ear. There was vomiting of food, and afterward of blood. The temperature in the axilla was normal; pulse, 100, and full; surface covered with clammy perspiration. It was impossible to arouse him to an intelligent perception of surrounding circumstances. The left hip was found to be dislocated on the dorsum ilii. The dislocation was readily reduced by Reid's method without the use of an anæsthetic. The knees were tied together, to guard against a recurrence of the dislocation. Five hours later, viz., at 7 P.M., reaction was established. Temperature, 100°; pulse, 112; patient was very delirious. An ice-bag was applied to the head. A full dose of chloral hydrat. and bromid. potassii was administered by the rectum. One drop of croton-oil was placed on the back of the tongue. At 9 P.M., temperature, 101°; pulse, 112. At midnight, temperature, 102°; pulse, 120; wild delirium; head shaved; chloral hydrat. and bromid. potassii repeated per rectum.

On the following morning, at 10 A.M., temperature, 103¾°; pulse, 120, and full; noisy delirium. Considerable force was required to prevent the patient from throwing himself out of bed. Soon after this I saw the patient for the first time, and opened the median cephalic vein of the right arm, taking from the patient twenty fluid-ounces of blood. The violence of the delirium was abated at once in a marked degree. Chloroform was cautiously administered by inhalation, until the patient was entirely tranquillized. Two hours after the venesection the temperature had fallen to 100°; pulse, 112. The delirium had completely subsided, and the patient was sleeping quietly. The oozing of blood from the right ear continued for thirty-six hours after the injury. During the period of seventy hours following the venesection the patient was free from delirium, and the temperature continued below 100°. At the end of that time he had a severe chill, followed by a rise of temperature to 103°, with a full pulse of 120, and active delirium. Phlebotomy was again resorted to, and about ten fluid-ounces of blood were removed. The delirium at once subsided, and, within an hour, the temperature was reduced to 100°, and the pulse to 90 beats, the patient sleeping quietly for several hours. After this time there was no further rise of temperature. From the first of September the treatment was directed by my colleague, Dr. Briddon. On the 5th of September a mixture containing iodid. potassii, gr. xv., tinct. belladonnæ, ♏x., ext. fluid secal. cornut., ʒ ss., and bromid. potassii, gr. x., was directed to be given once in four hours, and there was gradual improvement under its use. After a few days the belladonna and the bromide were omitted from the prescription. Blisters were applied behind the ears at intervals of a few days. One month after his admission the patient was discharged, perfectly rational, and in excellent general condition. In the review of this case it appears to me that the favorable result is largely to be ascribed to the abstraction of blood, which on each occasion was promptly followed by a marked abatement of the cerebral irritation and of the febrile excitement. There is scarcely any class of cases in which venesection is better tolerated, and in which it affords more relief than in traumatic hyperæmia of the encephalon.

There is another feature of interest in this case, viz., the oozing of blood from the meatus auditorius for the period of thirty-six hours after the injury. A slight flow of blood from the auditory canal for a short time after an injury of the head, is not to be regarded as a grave symptom. But when the sanguineous discharge is profuse, and especially when it is long continued, it strongly indicates the probability of fracture through the petrous portion of the temporal bone, and unfavorably affects the prognosis.

CASE III.—*Compound Comminuted Fracture of the Femur and Tibia—Amputation at the Hip-joint—Death from Shock.*—Delia Benson, aged twelve years. Admitted to Presbyterian Hospital, August 8, 1880. Her parents represented that she had enjoyed good health until the time of the injury. An hour and a half before her admission she had fallen from the front platform of a Second Avenue horse-car, the wheels of which passed over her left lower extremity. When she was brought to the hospital she was suffering from the shock of the injury. The hemorrhage was very slight, and venous. Pulsation could be detected in the posterior tibial artery. The pulse at the wrist was quite distinct. The left lower extremity was terribly mangled. There was a compound comminuted fracture above the middle of the femur, a T-shaped fracture through the articular end of the same, extending into the knee-joint, and breaking off the articular cartilages. There was, in addition, a depressed compound fracture of the upper third of the tibia. The soft parts of the thigh were crushed and mangled from a hand's breadth below the groin down to the knee, and the integuments of the upper part of the leg were also involved in the injury.

I saw the patient in the evening, a few hours after the injury, and deemed it impossible to save the limb. The thigh had been bandaged firmly just below the groin to arrest the hemorrhage. I did not think it safe to remove the bandage, nor to leave it in place until morning. The injury extended so high up that the only feasible operation seemed to be amputation at the hip-joint, and there was not room to make the anterior flap of the usual dimensions. I performed the operation by the method recommended by Prof. Wm. H. Van Buren, introducing a sharp-pointed knife just below the anterior superior spinous process of the ilium, and bringing out the point of the instrument through the integument of the upper and inner part of the thigh near the anus, cutting downward with the edge of the knife very near the anterior surface of the thigh-bone, until there was sufficient space for my assistant, Dr. Wetmore—who aided me in the absence of Dr. Wells, the house surgeon—to introduce his hand into the wound above the back of the knife, and behind the great vessels, which he then efficiently compressed between the hand in the wound and his other hand in front of the integument. When Dr. Wetmore notified me that the vessels were under his control, I turned the edge of the knife forward and completed the anterior flap, which I was obliged to make considerably shorter than usual. The flap was then turned upward, and ligatures were applied to the femoral and profunda, which pulsated distinctly, but from which there was no escape of blood. I then opened the capsule of the joint, divided the ligamentum teres, and made a posterior flap a little longer than usual, to make up for the deficiency of the anterior flap. There was no bleeding from the vessels of the posterior flap, and the pulse was imperceptible at the wrist. A hypodermic injection of brandy was at once administered, an enema containing brandy was thrown into the rectum, and the vapor of nitrite of amyl was administered by inhalation, but the patient did not rally, and it soon became evident that the patient had died from the shock of the operation superadded to that of the injury. No autopsy was allowed.

Case IV.—*Deep Perineal Abscess—Retention of Urine.*—Paul Laval, watchmaker, aged thirty-two years, a native of Switzerland, married, was admitted into the Presbyterian Hospital, August 29, 1880. He had had two attacks of gonorrhœa. The first, two years before his admission, was followed by retention of urine. The second attack, a year afterward, was followed by gleet, with a diminished and twisted stream. Ten days before his admission, after exposure to cold, he had a severe rigor, followed by high fever, with pain and heat in front of the anus, and he could only void his urine by drops. Three days before his admission a steel sound, twenty-four millimetres in circumference, was passed through the canal with difficulty, followed by slight hemorrhage from the urethra. On admission to the hospital, the patient had not passed any urine for sixteen hours. Dr. Wells, the house surgeon, introduced a soft, flexible catheter without much difficulty, and drew off sixteen ounces of high-colored albuminous urine. There was decided tumefaction in the perineum, with localized heat and throbbing pain. A mercurial cathartic was administered, followed by an anodyne. On the following morning I saw the patient for the first time. I introduced steel sounds up to thirty millimetres without difficulty, and there was nothing to indicate that they did not pass freely into the bladder. I then passed a large silver catheter, but no urine came away, but there was an escape of half an ounce of thick, ropy pus, tinged with blood. Tepid water injected through the catheter came away clear. With some difficulty a smaller silver catheter was passed into the bladder, and eight ounces of high-colored urine were drawn off. Several hours later the patient passed urine without any difficulty, and the perineal pain was completely relieved. The patient was discharged on the following day, and he returned a week later with the report that he had experienced no further difficulty in micturition. All signs of inflammation in the neighborhood of the neck of the bladder had disappeared.

Singing as a Cause of Uterine Disease.—Dr. Clifton E. Wing publishes in the *Boston Medical and Surgical Journal* some very interesting cases relating to this subject. He had several lady-patients, who came to him for uterine trouble, and all voluntarily asserted their belief that the complaints were due to the "abdominal method" of singing which they had been trying to learn. This consists in the cultivation of diaphragmatic respiration at the expense of thoracic. It naturally causes great pressure to be put upon the abdominal organs. One Boston teacher boasts that by "proper practice" such power may be acquired that if the person be placed back against the wall, and a full-sized piano be moved up against the retracted abdomen, the latter, by the "abdominal method," can be so forcibly expanded that the piano will be pushed rapidly away. The new method adds greatly to the power of the voice. Dr. Wing found in the cases examined that it had caused a retroflexion or retroversion, with various coincident ills. He believes that in the "abdominal method" as now practised we have a fruitful source of uterine displacement.

Progress of Medical Science.

Hemorrhage caused by the Acid Nitrate of Mercury.—Dr. Charles B. Nancrede reported to the Philadelphia County Medical Society, September 8, 1880, an interesting case of hemorrhage caused by the acid nitrate of mercury, which illustrates the disadvantage of applying this remedy to all sores upon the penis. He had been called in consultation to see the case, and found an alarming hemorrhage from the dorsal vessels of the penis, which came on after an application of this caustic. He was obliged to secure both dorsal arteries by acupressure. There was subsequently some return of the hemorrhage, but it was speedily checked. Sloughing also followed, which opened the urethra, and required a plastic operation. The patient finally recovered, and has had a healthy child, so that in all probability the first lesion was not syphilitic.—*Philadelphia Medical Times*, October 9, 1880.

A Celluloid Nose as a Substitute for Ineffectual Rhinoplasty.—A dentist in Bamberg, Dr. V. Blumm (*Bayer. aerztl. Int.-Blatt*, 1880), recently modelled a celluloid nasal organ for a patient who had lost his nose in consequence of lupus. Rhinoplasty had been tried by Thiersch, but the absence of the nasal cartilages made the operation an unsuccessful one. The nasal passages were kept open by the introduction of goose-quills, and the patient was in a distressing condition. A plaster-of-Paris model of the parts was first made, and then a wax nose fitted to the same. This was afterward worked in celluloid, and two little silver canulæ substituted for the goose-quills. By a hooklet the celluloid nose was attached to a pair of spectacles. This apparatus is cleaned twice daily, and occasions so little inconvenience that the patient does not even remove it at night.—*Memorabilien*, August 31, 1880.

Elephantiasis of the Leg treated by Elastic Bandaging.—At a meeting of the Clinical Society of London, Dr. Stephen Mackenzie reported a case of elephantiasis which showed the good effects of elastic bandaging. Patient, male, aged thirty-three years, worked always as a farm laborer in Ireland, and was healthy until present disease. Never had syphilis. Had never eaten largely of fish. Ten years ago sustained an injury to the leg, which was much bruised and swollen. About three years after the accident the leg was noticed to be larger than its fellow, and from that time to his coming under observation the limb continued to enlarge. About four times a year, with a certain degree of regularity, the leg would become acutely worse; for a few days he would suffer from nausea, headache, and shivering, and then the leg would become sore and painful, feeling extremely hot, and looking red and steaming. After remaining in this state for about a week the surface of the leg would begin to discharge a clear fluid of offensive smell. When admitted into the London Hospital, September, 1879, the limb was enormously swollen, presenting several large lobulated masses of œdematous tissue, and the surface was covered with abrasions of the cuticle and papillary elevations. There were no enlarged glands. No changes in the blood or urine. The patient was placed in bed and Martin's bandage firmly applied to the leg from the toes up to the thigh. He was kept in bed, with the exception of being allowed to go into the garden for one hour a day. The diminution in the size of the limb from the time the rubber bandages were applied was almost uninterrupted and very remarkable. All the lobulations subsided, and the papillary elevations disappeared. A good deal of fluid exuded from the cuticular abrasions, and the decrease in the limb appeared to be proportionate to the fluid discharged. The patient had no inconvenience from the treatment. Whilst the case probably differed in its origin from the tropical ones, from which it differed also in the absence of filariæ in the blood, the disease reached almost as high a grade as the elephant-leg of Barbadoes or India. It was found that the swelling recurred when the bandages were removed, so that it is probable that the bandages will have to be worn permanently.—*Medical Press and Circular*, October 13, 1880.

On the Removal of Uterine Tumors by Abdominal Section.—T. Spencer Wells, in his address delivered in the Section of Obstetric Medicine, at the annual meeting of the British Medical Association in Cambridge, August 13, 1880, introduced a discussion on the removal of uterine tumors by abdominal section, and stated that since the delivery of the Hunterian Lectures at the College of Surgeons he has operated antiseptically, and has had ten cases of removal, with three deaths and seven recoveries; also five cases of incision and puncture, all recoveries; or three deaths in fifteen operations. His whole experience amounts to sixty cases: thirty-four of removal, with eighteen deaths and sixteen recoveries; twenty-six of incomplete operation, with only one death. The smaller mortality since adopting antiseptic precautions is certainly remarkable. In these operations the risk is very small, indeed, if the attempt end in incision and puncture only, and it may be expected to become much smaller as experience increases and the details of the different steps of the operation are more carefully studied and more frequently practised. He insisted strongly on the advisability of uniting divided edges of peritoneum to each other. When the abdominal wound is united the peritoneal edges should be brought together, to insure the complete closure of the peritoneal cavity, and prevent the admission of fluids oozing from wounded muscle, fat, and cellular tissue, and also to prevent contact of intestine and omentum with anything more than peritoneum. He strongly advised, also, that the peritoneal edges of the divided uterine wall should be brought together by sutures along the whole extent of the gap. Schröder, of Berlin, uses two rows of sutures: first, one row which closes the mucous surfaces of the uterine cavity, and is left to pass away downward by the vagina; and a second one, which brings the peritoneal edges of the fundus and broad ligament together. Hegar, of Freiburg, has returned to the extra-peritoneal treatment, and is especially careful to close the peritoneal edges of the lower part of the opening in the abdominal wall very accurately around the peritoneal edges of the uterine stump. Wells prefers the intra-peritoneal treatment, provided the edges of the peritoneum are accurately brought together. He had recently removed a large fibro-cystic tumor which involved the fundus and part of the body of the uterus. The patient was over sixty years of age. The operation proved successful, which was due principally to the stitching together of the peritoneal edges of the divided uterine wall, an opening being left for a little oozing of blood through the vagina.—*British Medical Journal*, September 4, 1880.

Foreign Bodies in the Rectum.—The danger of introducing foreign bodies into the rectum as a means of arresting the discharges of dysenteric inflammations is exemplified by the following cases. M. Verneuil extracted a foreign body from the rectum under the following conditions: An old soldier, tormented by the frequent action of the bowels due to a chronic dysentery, had adopted the habit of blocking up the rectum by means of a tampon, in the centre of which he placed a piece of wood. Having neglected on one occasion to envelop the piece of wood in linen, it ascended into the rectum, and he was unable to extract it. When seen by Mr. Verneuil the piece of wood was out of reach of the finger in the rectum, but could be felt in the iliac fossa. In order to reach it he was compelled to perform linear rectotomy, which he did after the method of Lister, and succeeded in saving his patient. Another case, recorded by Dr. Briggs, of Nashville, is that of a man who introduced into the rectum a large wineglass, which was removed under an anæsthetic. The glass was found high up in the rectum, the rim being firmly impacted in the mucous membrane. The posterior wall of the gut was considerably lacerated, but not perforated, where the glass had been imbedded. There was no hemorrhage immediately after the operation, but subsequently the patient lost a considerable quantity of blood, and he succumbed, thirty-six hours after the operation, to exhaustion from loss of blood and diarrhœa.—*Nashville Jour. of Med. and Surg.*, October, 1880.

Operation for Hepatic Echinococcus by Thoracic Incision.—At the eighth meeting of German Surgeons, Dr. Israel presented a patient, aged thirty-two years, on whom this operation had been successfully performed. Abdominal interference being rendered impossible on account of the pushing up of the diaphragm and the high position of the hydatid cyst in the convexity of the liver, the following plan was adopted: the pleural cavity was first opened and a portion of the sixth rib excised. The costal and diaphragmatic pleuræ were here in close apposition, so that there was little danger of air entering the cavity. Seven days later the diaphragm was incised, the cut including its peritoneal covering. After nine days the serous coats of the diaphragm and liver were found firmly united, and then the hydatid sac was opened and a silver drainage-tube inserted. In ten weeks the patient was cured. The author mentions that traction of the hepatic cicatrix occasions the characteristic reflex symptom of pain in the right shoulder.—*Memorabilien*, August 31, 1880.

Multiple Cutaneous Gangrene due to Cachexia.—In 1878, Prof. Simon first called attention to this comparatively rare disease, which for the most part affects children of various ages, and has a malignant character. Dr. Eichhoff recently observed a case of this kind at the Breslau clinic for cutaneous and syphilitic diseases. The child, three years old, was first seen in April, and was then suffering from extensive eczema of the face, breast, and back. Constitutional symptoms were not marked at this time, and the eczema rapidly yielded to appropriate treatment. In May the child was again brought to the clinic, when its general health was found to be much depreciated. The back had been covered with dark red patches, the largest about the size of a millet-seed. Vesicles soon appeared above these patches, but they rapidly collapsed, leaving ulcers, which soon became gangrenous. The sloughing extended deeply down into the subcutaneous connective tissue. Local and constitutional treatment caused these sloughing ulcers to heal, with cicatrices resembling those of variola. Some time after this a corneal ulcer developed, and simultaneously with its appearance the head became affected with gangrenous ulcers. The latter slowly healed, leaving deep cicatrices. A second exacerbation occurred in June, and again a corneal ulcer was one of the complications. The ointment, applied locally, consisted of 15 parts each of camphor and myrrh, with 100 parts of vaseline. The pathogenesis of this affection was said to resemble that of ordinary bedsores. The appearance of the corneal ulcers was explained by the depreciation of the child's general health and insufficient *vis à tergo.* —*Deutsch Med. Woch.*, August 21, 1880.

Note on the Evolution of the Gastro-Intestinal Glands.—In a communication to the section of zoölogy of the *Association française pour l'avancement des sciences*, Dr. Condereau makes known the results of his researches on the evolution of the gastro-intestinal glands. From a physiological point of view he concludes that alimentation should correspond to the digestive power, which depends upon the degree of development of the gastro-intestinal glands, and not upon the age of the being.

From an anatomical standpoint the following conclusions are given: 1. In the fœtus the gastro-intestinal mucous membrane is thrown into folds covered with cup-like epithelia. During the progress of gestation these folds increase in number and extent, thus intercepting, as it were, certain spaces. The form of the latter resembles more and more that of glands, and in fact the glands originate in this way. 2. It is only some time after birth that the glands are definitively formed. 3. At birth the glands are still very imperfect. The secreting tubules, agglomerated by the surrounding tissue, are as yet quite indistinct, but the epithelium is not so clearly marked as in the fœtus or in the newly born animal. 4. The glands in general, and especially those of the stomach, gradually grow larger until adult age is reached. During their growth and development considerable variations occur in the relative size of their constituent elements. This proportion may be regarded as definitely established about the epoch of weaning. 5. During this period the epithelia undergo remarkable transformations. The epithelium of the mucous glands, at first very voluminous, gradually grows less conspicuous, and at length about the period of weaning attains its normal and permanent size. 6. At birth, properly speaking, the pepsin-cells do not yet exist. The cells are very minute, and their protoplasm is hardly granular. Gradually, however, these cells grow, and their contents become more and more granular. The evolution is completed at about the period of weaning, although even then the cells are rather less granular than at adult age. About the end of the first third of the period of their evolution the pepsin-cells first begin to bulge out laterally from the gastric tubules.—*La tribune médicale*, August 29, 1880.

The Elastic Ligature in Fistula in Ano.—Dr. A. W. Perry has found the elastic ligature efficient in the treatment of fistula in those patients who dread the use of the knife, and records two successful cases in the *San Francisco Western Lancet*, October, 1880. Solid rubber cord, one-eighth of an inch in diameter (elastic ligature), was used, and was pulled with a force of four ounces. In one case the patient had suffered from the fistula for many years; its external opening was three-quarters of an inch from the anus, and the internal opening one and one-half inch above. This cut through in six days. The ligature was tightened on the third day. In the other case, the fistula was an inch from the anus, and entered the rectum two inches above. This was divided by the ligature in seven days. In neither case was there any inconvenience beyond a slight smarting the first day the ligature was tightened. To perform the operation a flexible silver probe, with an eye in one end, armed with silk, is passed through the fistula into the rectum and out through the anus. By means of the silk the elastic cord is pulled through, and the ends are tightened by a pull which would raise four ounces, and are then tied together close to the skin with silk. If the ligature divides the tissues slowly, they will heal up behind it. The after-treatment consists in the administration of Friedrichshall or Hunyadi Janos water, or a saline cathartic in the morning before breakfast, and immediately after the evacuation an enema of warm water or infusion of mallow-root or linseed. The parts are thus prepared for healing. For want of such treatment one often sees the cuts for fistula remain unhealed an indefinite time.

Fatal Ulceration of Duodenum following Local Application of Hot Water.—J. R. Greenwood, M.R.C.S., reports, in the London *Lancet*, August 21, 1880, a case of fatal ulceration of the duodenum, produced through scalding by hot water used as a hemostatic. The patient had an epitheliomatous growth on the penis which invaded that organ as far as the pubes, and amputation was resorted to as a means of relief. Twenty-four hours after the operation there was profuse hemorrhage from the wound. Styptics were applied, but without effect. The condition of the patient rapidly became critical, and the doctor finally employed the method advocated by Mr. Keetley, of St. Bartholomew's Hospital, viz., sponging the bleeding surface with hot water. By this means the bleeding was arrested. The patient, however, passed a bad night, complaining of pain and uneasiness in the part, which wore a very unhealthy appearance. Early next morning he was seized with an acute pain in the abdomen, accompanied by vomiting, feeble pulse, cold extremities, and anxious countenance; the bowels were confined, and peritonitis became well marked. Temperature steadily rose to 106.3°. Death occurred within a few hours. *Autopsy* revealed the following: heart hypertrophied —weight, eighteen ounces; valves healthy. Lungs congested and œdematous. On opening the abdomen, a large quantity of opaque, greenish, stinking fluid escaped; a large, pale clot was seen lying near the duodenum, and on pulling it aside a rent through the peritoneum was discovered, near the head of the pancreas. On opening the duodenum a deeply indented, elongated ulcer, with a well-defined margin, about an inch long and half an inch broad, was seen. All the coats of the intestine were destroyed, so that the pancreas formed the base of the ulcer. The visceral layer of the peritoneum was everywhere vascular and opaque, the parietal layer being coated with soft lymph. The rent into the peritoneal cavity was close to the margin of the ulcer. The duodenal complication was attributed to scalding by the hemostatic used, which also caused the sloughing of the wound.

The Treatment of Hip-Disease.—Dr. E. H. Bradford has recently given a very fair statement of the results of the various methods of extension, and cites cases occurring in his own practice by way of illustration. By experiments on the cadaver he was unable, with an extending force of one hundred and fifty pounds, to produce "distraction" (a term introduced by Volkmann) or separation of the bones forming the joint. On the body of a full-term fœtus, however, even with one pound, he was able to separate the bones one millimetre. The explanation lay in the fact that the fibro-cartilaginous collar which surrounds the head of the femur in the adult is absent in the newly-born child. If the relief which is given by extension be due to actual separation of the bones, it must be in cases wherein the fibro-cartilaginous collar is loosened by the disease, and in the early stages this is presumably not the fact; it, as a rule, is due to the control of the muscles. There are instances, he cites, where extension does not give relief, and is even uncomfortable. This he thinks might be explained on the supposition that extension relieves muscular spasm and the pain caused by the undue pressure of inflamed surfaces of bone, but not that due to inflamed synovial walls or the distention of a synovial cavity; and he adduces in support of this the experiments of Schultze, who found that extension of a distended joint brought about an increase of the intra-articular pressure, but that an extension of six pounds continued for four or five days effected a diminution of this pressure, either by relaxing the ligaments or bringing about an absorption of the fluid through an increase of the pressure. As to the weight and pulley, it is not a thorough means of extension, and is incapable of preserving the parallelism of the limbs, an indication so important that if neglected a cure leaves the patient as much of a cripple as an amputation would.

While the "physiological method" advocated by Dr. Hutchison, meets certain indications, it cannot be relied upon in all the phases of the disease. As a means of extension it is imperfect for the reason that it is efficient only when the patient is upright. It is not certain to protect the joint from jar. He reports seven cases treated by this method, in four of which the stiffness and tension of the adductors remained the same after from six to eight months. In one, Case XI. of the series, the cure at the time of the report seemed perfect (only three weeks after treatment was suspended). The fact that there had been one or two cures and relapses in this case makes the final result still questionable. Case XII. is not complete, and the sex (female), taken in connection with the age, twenty years, makes one strongly suspect a neurosis of the hip. Case XIII. is similar to Case XII. These results compare very unfavorably with those given by Dr. Hutchison in his recent work. Dr. Bradford has been unsuccessful with the method of Hugh Owen Thomas, of Liverpool. The author prefers, for the majority of the indications, the long splint employed by Dr. C. F. Taylor, although this does not protect the joint from a jar, and is not a perfect means of fixation. He reasons that, inasmuch as it has been clearly demonstrated by Volkman (*Klinische Vorträge*, 168, 169) that in many cases of hip-disease the lesion is, in the early stages, a caseous degeneration or local tuberculosis in the epiphysis of the head of the femur, and that the joint is not primarily affected, it is certainly as bad treatment to subject all cases of hip-disease to long confinement as it would be to confine patients with phthisis in order to prevent bronchitis. His conclusions are that the treatment should be based neither upon any one method, nor upon the use of any splint. At different times and in different cases, one condition, and the consequent indication for treatment, may be more prominent than another. The greatest danger is from destructive changes of the bone, and not from the synovitis; and hence, jar upon the inflamed tissues, when caused either by locomotion or by muscular spasm, is especially to be avoided, and this must be done until recovery has so far taken place that there is no possibility of relapse. This requires a long time, during a large part of which motion may not be injurious. The stage when jar must be prevented is longer than the stage when rest is required.—*The Boston Medical and Surgical Journal*, Nov. 11, 1880.

Catarrhal Gland-Fever is the name proposed by Dr. Hugo Engel, of Philadelphia (*Medical and Surgical Reporter*, November 13, 1880), for an affection which seems to be far from rare, but has not been described in any of the systematic works on internal medicine or books on surgery. He has seen nine cases, one of which was in consultation with Dr. S. D. Gross. There are but few complaints which, like the one in question, experience so similar a course, viz.: A person usually in perfect health, after an exposure to cold and damp, has chilly sensations, followed by increased temperature, fever, and a rapid pulse. Digestion is disturbed; bowels are sluggish; urine highly colored and very acid. From the very beginning of the complaint the patient has pains all over, but especially in or near the inguinal regions, and most of the superficial inguinal and a few of the superficial abdominal glands on both sides of the body are enlarged and painful; these become painful and the integument over them is reddened. All these symptoms continue for about three to five weeks, when one or two of the glands last mentioned suppurate. Then the fever and the digestive disturbances commence to decrease and then disappear, leaving the patient in a debilitated condition, from which he slowly recovers. The weakness in the lower extremities is especially apt to remain for a long time. While the glands on both sides are affected, only those on one side are apt to suppurate. No other glands of the body, except those alluded to, are ever attacked in this complaint. The disease cannot be mistaken for any other. The fever and the acute beginning, as well as the history of the case, distinguish it from simple scrofulous enlargement and suppuration of glands. The fact of the exposure and the number of glands involved separate it from the bubo of syphilitic or blennorrhœic origin. In lymphadenoma the number of white corpuscles is increased, which is not the case in the disease here described. There is no abortive treatment of any kind. The disease undoubtedly belongs to the domain of internal medicine. It seems to attack only adult men, and affects a patient but once. Almost without warning the disease will incapacitate an active man for at least six weeks for any work. As the disease will run its course we can only try to prevent suppuration of more than one gland, to hasten absorption of the morbid products of the others, and to accelerate convalescence. The moment we attack the glands more vigorously, to hasten either suppuration or absorption, we only prolong the case. In this disease the doctor as well as the patient must have patience. Iodide of potassium and iodoform are useless; mercurial preparations do harm; japorandi or other diaphoretics debilitate without any benefit, and a tonic treatment with iron, etc., from the beginning, only disturbs digestion the more.

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Cholera is very prevalent in British Burmah.

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THE PATIENT'S CONSENT TO AN OPERATION AND THE SURGEON'S DISCRETION.

The recent suit for malpractice against Dr. Henry D. Noyes, of this city, involved not only a point of great interest to ophthalmologists, but also to general surgeons. The suit was brought as a test of the right of a surgeon to alter his plan at an operation without again consulting the patient. The facts brought out in the trial were substantially as follows: The plaintiff was a young man, a native of Massachusetts, who had membranous cataract in both eyes, and who, on November 6, 1876, presented himself for gratuitous treatment in the service of Dr. Noyes, at the New York Eye Infirmary. A cursory examination was made of both eyes, showing the left to be the better of the two as regarded cataract. The patient was advised to have both eyes operated upon, and one at a time. The plaintiff claimed that when this suggestion was made, he replied: "I only want an operation on the right eye. I don't think I shall ever have anything done to my left eye." The mother says she stated that under no circumstances would she permit the left eye to be exposed to any risk, as her son depended solely upon it for sight. His father swore that he emphatically dissented' from the doctor's proposition. After the expression of opinion regarding the advisability of successive operations, atropine was used, the patient and his friends retired for nearly an hour, when opportunity was offered for consultation. At the end of that period Dr. Noyes examined both eyes with the ophthalmoscope and oblique illumination, and deliberately repeated his decision regarding the operations, when no dissent or reply was made by the patient or his friends, they remarking that if they concluded to have the operation performed they would return on the following Friday. They did return on that day, and Dr. Noyes' statement of the succeeding events was to the effect that the young man placed himself upon a table and was given an anæsthetic. Just before becoming insensible the patient raised his hand and placing it upon his right eye said, "This eye, doctor." Proceeding to operate on the right eye, Dr. Noyes found that the pupil was filled with a material which consisted of vascularized false membrane, mingled with a plug of unabsorbed cataractous material. The instrument used—a double-edged needle—not only penetrated this intra-pupillary substance with unexpected difficulty, but produced bleeding at the periphery of the iris, and altogether gave such an unfavorable outlook for the future of the eye that the operation was abandoned. Dr. Noyes claimed that nothing but a harmless exploration was made of this eye--in other words, that no operation had been performed upon it. Consequently, he thought it his duty to operate on the other eye, inasmuch as he concluded that he would be keeping his promise not to operate on both eyes at once, and would give the patient a chance for improved sight.

Accordingly the ordinary two-needle operation for membranous cataract was performed on the left eye, without accident, and was perfectly satisfactory. The patient, subsequent to the operation, and while being led to the ward, remarked to his father that both eyes had been operated upon, and neither he nor his father entered any remonstrance. The defendant saw the patient on the following Sunday, and was alarmed and astonished to find a very serious inflammation of the iris and ciliary body of the left eye. An incision was promptly made through the margin of the cornea, the plastic exudation removed by the iris-forceps, and a small upward iridectomy was performed, with the immediate result of relieving pain. But the inflammation continued, and the eye was finally destroyed by suppurative irido-cyclitis. It was not until ten days had elapsed from the time of the operation, and when the eye was lost, that the mother, who was the constant attendant upon the patient, made any intimation that the left eye should not have been operated upon. Dr. Noyes replied to her that he had performed the operation in good faith, and that the bad result, in his experience, was against all rule. Three weeks subsequently to the operation, and while the patient was still in the infirmary, the father openly accused Dr. Noyes of violating his agreement by operating on the left eye without due authority, and this Dr. Noyes at once emphatically denied.

The suit was subsequently brought for $10,000 damages. The skill in the performance of the operation was, as might have been expected under the circumstances, not questioned, the whole point of the case turning upon the fact whether or no the surgeon was entitled to alter the order of his operations without additional and express permission from the patient or his nearest kin. The defendant urged that the silence of the parties when he proposed to operate first upon one eye and then upon the other was equal to acquiescence. Upon this implied authority Dr. Noyes claimed that it was within his discretion to change his opinion as to which eye he should operate on first after he had begun. In this he was ably supported by the expert testimony of Drs. Loring, Roosa, and Gruening, and Dr. Miller, of Providence, who had examined the patient there. They testified that such action was entirely within the scope of discretion ordinarily assumed by surgeons in such cases.

Judge Russell stated in his charge that he could find no records of a similar case; that it was an extraordinary one, in that it brought up the question as to what constituted legal permission—whether or no there was reasonable ground for the doctor to assume that his proposition was consented to. But the point in law which has perhaps as much importance to the surgeon as any other brought out by his honor is the charge that the patient under the excitement of an impending operation was not competent to revoke any authority previously given regarding the character or extent of the operation. The jury disagreed, but brought in a verdict of ten to two in favor of the defendant.

As has been said, the plea of absence of authority to perform an operation is a new one in medical jurisprudence, and, as it will doubtless be urged again, it behooves surgeons to be on their guard accordingly. In the present case Dr. Noyes believed he had the requisite authority and acted in good faith, but it must be confessed that said authority was given by acts rather than by words. No question of want of skill was raised, no one doubted the motives of the operator in giving the patient the best chance in his power, no claims were made that any special risk was run in the performance of an operation on the left eye—in fact, the disastrous result was against all rule and expectation; still, in the light of the present experience in the case, it is safe to say that neither Dr. Noyes nor any other careful man will hereafter be satisfied short of a positively expressed permission from the patient to be operated upon. Under the circumstances of a possible suit for damages there should be no exception to such a rule, unless it can be proved that the life of the patient depends upon it, and even then it would be safer to obtain the requisite authority for such a possible emergency, than to be without it on the forced assumption of an extra responsibility.

QUACK MEDICINES AND THE RELIGIOUS PRESS.

In a previous issue we made some criticisms upon the practice indulged in by religious journals, of advertising quack medicines. We believe that there can be but one view taken of this practice in question, which is that it encourages harmful impositions, and is grossly inconsistent with the principles of Christian morality professed by the papers in question.

There are some clergymen—and good ones too—who openly refuse to be trammelled by what they are pleased to call the prejudices of doctors. As long as this independence concerns only the adhesion to the various 'pathies that dangle about real medicine, we have nothing to say. The intelligence which can be coerced into a faith in infinitesimals is too small to affect anything but our sympathies, and we have found the clergy, as a whole, quite above the weaknesses of dogmatic medicine. But this quasi-endorsement of patented nostrums, which the organs of the clerical profession give, is quite another thing. In almost every case there are statements regarding the properties of the mixtures advertised, which are absolutely false. Moreover, this falsity is too glaring to allow of any excuses for its endorsement on the score of ignorance. Every intelligent and well-informed man, whether medical or clerical, knows that there is no specific for consumption, or for cancer, or for Bright's disease; furthermore, every man who assumes the responsibility of a widely circulated journal ought to act in accordance with such knowledge. The advertisement of a patent medicine, therefore, means in every case the proclamation of a positive falsehood. Some advertisements, to be sure, are ingeniously worded so as to give the impression that the drugs are specifics without actually saying so. But the lie is in them just the same. Yet these untrue statements are published in nearly every religious journal in the land, and are read and doubtless believed in by thousands.

In an examination of the recent numbers of leading religious weeklies we found that the false assertions (as defined above) regarding the efficacy of quack remedies were advertised in about the following proportionate number of times in each issue: *Zion's Herald*, 11; *Congregationalist*, 7; *Examiner and Chronicle*, 3; *Independent*, 3; *Observer*, 7; *Advocate*, 4; *Baptist Weekly*, 3; *Christian Union*, 2; *Appeal*, 2; *Christian at Work*, 6; *Evangelist*, 2. Total, 50.

It should be said in the above enumeration we only count one mis-statement to each nostrum, when, as a rule, there are half a dozen false statements or implications attached to every announcement.

With regard to the character of the mendacity thus so extensively perpetrated, we gladly admit that a certain proportion of the advertisements are, medically speaking, harmless. That is to say, the person who buys an appliance which is advertised in the *Evangelist* as "the only specific for malaria" will probably not be directly injured by wearing the appurtenance thus evangelically endorsed. On the other hand, it is a fact that the sure and permanent cures promised will not be made, and that any benefit obtained will be due to some ordinary drug, or to the imagination. On the whole, however, the effect of patent medicines upon the system, as well as upon society, is extremely bad. Some are dangerous, some are entirely inert, all are ridiculously high-priced, and all fail to fulfil the promises made for them. The purchaser wastes his money, prolongs his disease (perhaps fatally), and deludes himself with a silly confidence. What shall be said, then, of those censors of morality who advertise these injurious deceptions. They wrong their religion, they impose upon their patrons, and they injure themselves and the high cause they assume to advocate.

There is something almost repulsive in the incongruities which the union of religion and patent medicines brings out. Can the mind pass easily from "Helps to Prayer" to "Vinegar Bitters?" Can "Golden Thoughts" retain their ethical value by the side of cancer-cures and "the only genuine kidney-cure"? We had become much interested in a tender and pathetic poem of which the first verse was as follows :

> "In pastures green not always He
> Who knoweth best in kindness leadeth me,
> But ——"

and at this moment our eyes fell on the adjacent column : "9,000,000 bottles of this wonderful remedy sold in one year!" or words to that effect It is revolting to have a tribute to the compassion of our Lord thus cheek by jowl with Congo Balsams and South African Blood-Purifiers and Catarrh Cures!

There pervades through many of the religious journals the woodcut of an ancient lady who sits, *splendide mendax,* over an announcement of a wonderful compound that lifts up the fallen womb and cures all the diseases of women. "Stand fast by the faith" is a beautiful religio-journalistic motto which may apply to more columns than was intended.

How very weak the gospel truths appear when set off by the advertisement of a cancer-cure!

Perhaps we have said enough for the present. We shall have more to say by-and-by. Every week increases the richness of our therapeutical collection from religious literature. It will soon form a little pharmacopœia of itself—a pharmacopœia not hampered by the restraints of scientific method, but copious in language, magnificent in promises, and as full of ingenious falsehoods as if the Father of Lies himself were pharmacist, author, and rhetorician.

In conclusion we appeal to the clergy to use their influence in checking this abominable practice of advertising nostrums in religious journals, a practice which, we repeat, they cannot but characterize as inconsistent with high morality, injurious to religion, and pernicious in every way. We are glad to see that some religious journals, notably the *Evangelist* and the *Appeal,* indulge in the practice but mildly, and appear to have a dim consciousness that it is not noble or Christian to bolster up religion with patent medicine lies. As for the clergy and Christian people in general, we feel sure that it only needs a full and frank statement of the facts in order to excite their condemnation of the practice.

HOSPITAL SATURDAY AND SUNDAY.

To-day and to-morrow will be received by the committee, organized for the purpose, contributions to the Saturday and Sunday Hospital Fund for the present year. Although this plan of making collections for our charitable institutions is but a year old, it has received such hearty and substantial endorsements from every quarter that we can speak of it as being firmly established in public favor, and likely to become more and more popular as its real objects are made known. Already other cities are following the example of New York, and we hear that Philadelphia, Boston, Portland, New Orleans, and other cities, are contemplating the initiation of this laudable method of charity.

Extensive preparations have been made in the direction of systematizing the collection of funds, and there seems to be little doubt that the sum total for this year will be double that of last year. Not only will good opportunities be given to the ever-ready church contribution-box, but every other available means will be used to secure the end. The officers of the Stock, Produce, and other exchanges named last year acted as receivers for this fund; but this year, under committees of their own choosing, they become collectors also. The Chamber of Commerce, for instance, has appointed a committee who have sent out circulars to every member of the Chamber, calling the attention of the various business exchanges to the scheme and asking for individual contributions. The Cotton Exchange has also, through its committee, sent out a similar circular. Hospital boxes are placed at the various railroad stations, suburban and elevated, at hotels, ferries, drug-stores, and other public places, so that no one need be excused from giving from want of opportunity.

As an inducement to contributions by societies, by large manufacturing and business establishments, and in return for benefits from the theatres, it has been arranged that any such society, establishment, or theatre contributing the amount required by any one of the hospitals for the endowment of a bed in it for a year, or perpetually, may have such amount applied for such endowment in the hospital it may select, and thereby obtain the use of such bed for the limited or unlimited time for any of its members or employees.

It needs no words from us to urge the necessity of contributions to the fund. The hospitals forming the association have peculiar claims upon the charity of the public. These institutions care for the sick poor who are not paupers. Over ten thousand of these patients are treated gratuitously each year. For such medical men as are acquainted with hospital work it is not difficult to answer the question: What would become of these needy sufferers if the large hospitals in this city did not offer their aid by supplying free board, free lodging, and free medical service? But the people need only to be told the needs of these institutions to respond to the calls now made upon their charity.

The plan for distribution will be the same this year as last. Gifts designated by the giver, and collections taken in churches for any particular hospital, will be given to such hospital; while undesignated gifts will be distributed by a committee composed of his honor the Mayor of New York, the Postmaster of New York, the President of the Chamber of Commerce, the Rev. Thomas Armitage, D.D., and Messrs. Frederick Sturges, Henry E. Pellew, and Oliver H. Palmer, among the hospitals uniting in this association, according to the amount of charitable work done by each in the past year, with a discretion to the committee where the income of any hospital has exceeded its expenses, or where the designated gifts to it have been large.

It is not intended to interfere with the giving of designated gifts, but the association has wisely reached the conclusion that the greatest benefit to the work which it represents, and in the end to each hospital, will be accomplished by giving *undesignated* gifts.

This would give the committee the fullest possible scope for the exercise of discretion in the bestowal of pecuniary help, and would insure its equal and *pro rata* distribution among the hospitals.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.

The recent annual session of this association at New Orleans seems to have been one of rather more than usual interest and success. The subjects of yellow fever and quarantine, which formed the backbone of previous meetings, were kept in comparative subordination on this occasion. There was, of course, the usual quota of papers showing the great utility of Boards of Health, and the necessity to a nation's prosperity of fully applying the latest and best methods of sanitation. But the association widened its field of discussion somewhat this year. The subject of contagious diseases among cattle was presented in a lengthy paper and received considerable attention.

The committee on the prevention of venereal diseases presented also an interesting and, in some respects, novel report. It recommended the enactment by state legislatures of a law making it a criminal offence for a person having a contagious disease, whether venereal or otherwise, to knowingly communicate this disease to another. This recommendation, which was endorsed by the association, was accompanied by a formal list of facts that ought to be generally known by the public regarding the means by which venereal diseases may be spread. This list we give in another column. It appears to us to represent the product of an imagination stimulated to a high intensity by syphiliphobia and philanthropy. But it is a document that may have its uses. Whether it should be made a popular health tract is a question requiring more consideration than was given it by the association.

A discussion upon the diagnosis of yellow fever occupied the last hours of the session and threatened at first to make them inharmonious. Matters were, however, amicably adjusted at last, and the society adjourned, leaving the impression that the members had done rather more and better work than ever before. This opinion was shared in by the public press which gave the association full reports and a hearty welcome.

Reviews and Notices of Books.

THE ART OF PROLONGING LIFE. By CHRISTOPHER WILLIAM HUFELAND. Edited by ERASMUS WILSON, M.D., from the last London edition. Philadelphia: Lindsay & Blakiston. 1880.

"The Art of Prolonging Life," by Dr. Hufeland, a philosophic physician and professor of medicine in the University of Jena, is, says the editor, a work enjoying deserved popularity in Germany. It was translated into English in 1797, but is scarcely known at all either in England or America. The editor was struck with the little real progress made in the science of living during the more than half a century since the original work was written. It appeared to him that it might be a useful thing to show how much remained to be done before our knowledge of the subject is complete.

The book is full of curious facts, historical and physiological. Its physiology and its hygiene are in the main pretty correct, yet the work should hardly be judged on its merits in these directions. The author takes Bichat's view of life: that it is a continual activity of destructive and creative powers within us. We call it now "metabolism," but the idea is the same. Life, however, with Hufeland, is the expression of a vital force, this vital force being a kind of *deus ex machina*, which co-ordinates nutritive and functional actions. This latter agent is what the modern physiologist would throw out entirely, since he finds that he cannot weigh it in his scales. As life cannot yet be explained, however, without assuming something beside the molecular *vis insita*, it does not appear that Professor Hufeland is so very far behind the age.

It is taken as the guiding principle of the book that length of life, other things being equal, depends upon the *intensiveness* of its activities. Life is compared to a flame—the hotter it burns the more quickly it is consumed. Many interesting facts in animal and vegetable life are given to illustrate this.

The book is a very entertaining one, and there is a great deal of sound sense in it on matters hygienic, moral, and physiological. Dr. Wilson has shown excellent judgment in putting it before the public and profession again.

THE USES OF TAR-WATER IN OBSTETRICAL AND GYNECOLOGICAL PRACTICE. By DR. J. E. ALLEN.

It is recommended by Dr. Allen that tar-water be substituted for carbolic acid in obstetrical and gynecological practice, and some excellent reasons are given for the change.

Seven Cases of Retroflexions of the Uterus; with Peritoneal Adhesions of the Fundus in the Hollow of the Sacrum. Treated by Forcible Separation of Adhesions. By Aug. F. Erich, M.D.

The title of this essay tells its nature. The author advocates the treatment of retroflexions indicated, followed by the use of a uterine stem. It is a new departure, and will be thought by many a dangerous one.

A Case of Puerperal Eclampsia, by Dr. J. E. Allen, presents the following points of interest:

1. The continuance of nausea and vomiting during the latter months of pregnancy. 2. The recurrence of the eclampsia on the third day after delivery. 3. The therapeutic value of hydrate of chloral. 4. The great value of bloodletting in puerperal eclampsia, and especially in apparently anæmic cases of the affection.

An Experimental Research on the Physiological Action of Drugs on the Secretion of Bile. By William Rutherford, M.D., F.R.S. Edinburgh: Adam and Charles Black. Oct., 1880, pp. 173.

This book details the results of a series of nearly one hundred carefully conducted experiments, extending over a long period of time, and undertaken to demonstrate what were and what were not cholagogues. The experiments were performed on dogs, which were the animals selected, because the anatomical arrangement and situation of its biliary apparatus were suitable for experiment, and because their digestion and susceptibility to the influence of drugs resemble that of man. The animals were fasting, and under the influence of curare to prevent interference with the discharge of bile by contraction of the abdominal muscles. Curare was shown to have no effect on the secretion of bile. The fluid in question was collected through a temporary biliary fistula, and after the experiment an autopsy was made in each instance to discover the effect on the intestinal glands of the drug experimented with.

Previous to these experiments our knowledge of the effect of drugs on the liver was meagre and uncertain. While it was known that certain drugs increased the quantity of bile in the fæces, it was not known whether they did so by increasing the secretion of bile or by stimulating the expulsion of bile already formed. The experiments throw no light on the latter question, but they bring the full glare of the sun to bear upon the former. The drug to be experimented with was injected into the duodenum, so that the effect produced could not be by reflex action from the stomach. The substances experimented with, as regards their power of stimulating the secretion of bile by the liver, may be classified as follows:

1. *Powerful:* Podophyllin, sodium benzoate, ammonium benzoate, benzoic acid (though less than its alkaline salts), sodium salicylate, euonymin, phytolaccin, iridin, sanguinarin, sodium phosphate, ipecac, ammonium phosphate, mercuric chloride (corrosive sublimate), and aloes, colocynth, and colchicum in large doses.

2. *Moderately powerful:* Leptandria, jalap, dilute nitro-hydrochloric acid, sodium sulphate, potassium sulphate, Calabar bean, baptisin, hydrastin, juglandin, rhubarb.

3. *Feeble:* Scammony, Rochelle salts.

4. *Very feeble:* Croton oil, senna, taraxacum, jaborandi, sodium chloride.

5. *Non-stimulants:* Magnesium sulphate, gamboge, castor-oil, ammonium chloride, sodium bicarbonate, potassium bicarbonate (unless in large doses), potassium iodide, atropia sulphate, menispermin, tannic acid, manganese sulphate, morphia, hyoscyamus, pure diluted alcohol, calomel.

6. *Depressants:* Lead acetate. Purgation by purely intestinal stimulants also diminished the secretion of bile.

Of the hepatic stimulants, classified as "powerful," the following also stimulated the intestinal glands: Podophyllin iridin, sodium phosphate, phytolaccin (slightly), and aloes, colocynth, and colchicum in large doses. Those experimented with which did not stimulate the liver, but stimulated the intestinal glands, were: Magnesium sulphate, gamboge, castor-oil, ammonium chloride, menispermin (slightly).

Among the many changes which the generally received therapeutics will have to undergo, as the result of this work, none are more noticeable than those relating to the position of calomel and corrosive sublimate. The action of ipecac is defined; euonymin, phytolaccin, iridin, sanguinarin, sodium phosphate, etc., are brought to the notice of the profession as powerful hepatic stimulants; croton oil is removed from the list; while magnesium sulphate is shown to differ materially in its action from potassium sulphate. In addition to the inestimable value which it has from a therapeutical point of view, this work, unless we are much mistaken, will necessitate a change in the pathology of a number of diseases, notably dysentery, rheumatism, gout, syphilis, and perhaps diphtheria. It is a long time since so valuable a contribution was made to practical medicine.

Report of Ten Cases of Gastric Ulcer, Etc. By A. Van Derveer, M.D. Albany. 1880.

The author of this pamphlet has made an interesting contribution to the clinical history of gastric ulcer. The cases illustrate, more than anything else, the occasional difficulty of diagnosing the disease, and the comparative inefficacy of medication. In the case of a Miss D., for instance, the patient was told that she had cancer by five prominent physicians in Europe and this country; by five others she was assured that she had gastric ulcer. She now seems to be getting well.

Walsh's Physicians' Handy Ledger. Ralph Walsh, M.D. Washington, D. C.

This is a ledger which well deserves its name. It is so arranged that each page is devoted to the daily account of one patient for a year, with columns for debit, credit, and date of payment. At the bottom of the page is a space for special charges for obstetrical, surgical, or miscellaneous services other than daily visits. Not only is the account of each month kept by itself at the end of its respective horizontal line, but each day has its space. It is the best book of its kind that we have seen.

China, Imperial Maritime Customs. Medical Reports for the half-year ending September 30, 1879. Shanghai. 1879.

This report is one of a series which has been regularly issued by the Inspector-General of Customs for some years. It contains a monograph on Cholera Epidemics in Japan; notes on Filaria Sanguinis Hominis and Filaria Disease in Amoy; Lithotomy Statistics from the Canton Native Hospital, and reports on the Health of Canton, Shanghai, and several other ports of China.

The article by Dr. D. B. Simmons, on Cholera

Epidemics in Japan, we notice in the next column. The article by Dr. Patrick Manson, of Amoy, on Filaria Sanguinis Hominis is well worthy the attention of pathologists. Dr. Manson is an ardent believer in the parasitic theory of elephantiasis, and he brings many new facts to the support of his convictions. Some contributions are made also to the life history of the filaria. The article is illustrated by numerous photographs of cases. His conclusions are stated at too great length to be given here. In general, he thinks that the ova or embryo of the filaria obstruct the lymph circulation through the glands. If this obstruction be incomplete, lymph scrotum, or chyluria, or varicose groin glands result; if it be complete, there is often elephantiasis.

The health reports of the different cities are well made up, and doubtless have much local value.

Dr. Fleming Carrow gives a table of operations for stone performed at the Native Hospital, Canton. There were 140 operations, mostly by the lateral method, and only eight deaths. The statement of this remarkably low mortality rate is made without comment or boasting, and is an evidence as much of great modesty as of unusual skill.

Supplement to the First Annual Report of the State Board of Health, Lunacy, and Charity, containing the Report and Papers on Public Health. 1879.

The present report, the first that has been made by the combined board, shows no falling off in the excellency of the matter that has been annually furnished by the health authorities of Massachusetts. The list of articles is quite a long one. A paper by the secretary on "The Pollution of Streams" gives the results of a careful examination into the effect of mill-refuse upon the purity of the rivers which receive the waste products of manufactories. No very serious pollution seems to have been discovered.

The paper of the greatest scientific merit is that by F. S. Billings, M.V., on "Trichinæ in Relation to the Public Health." Dr. Billings gives the natural history of the trichinæ, illustrating his subject amply, and concludes with advising certain measures of prevention to be adopted by the State. These measures include the examination of slaughtered pigs by competently educated veterinary inspectors.

A paper by Ellen H. Richards, on "The Adulterations of Some Staple Groceries," has been already commented on in this and other journals. We have also noticed some of the facts given by Mr. E. W. Bowditch in his paper on "The Drainage of Summer Hotels and Country Boarding-Houses." The article is profusely illustrated with diagrams and cuts, and it is the best contribution that has yet been made to a subject now deservedly arousing much attention.

There are half a dozen papers upon the vegetable or other impurities in drinking-water. These have a botanical quite as much as a sanitary value.

Several reports upon typhoid fever conclude the volume.

Transactions of the Medical Association of Georgia. Thirty-first Annual Session, Augusta, April 21, 22, 23, 1880.

The oration of the President, Dr. W. S. Kendrick, is eloquent, poetical, and eminently Southern in its character. It is an appeal to his auditors to follow the guidance of their nobler feelings, thus striving to elevate themselves and their profession.

Dr. Robert Battey furnishes an article on "Scrofulous Disease of Joints Complicating Phthisis." He contends that in many cases it is advisable to remove such joints by amputation, and he gives cases illustrating the benefits of the practice.

In a report of "Forty-two Cases of Uncomplicated Stricture of the Urethra," by Dr. Wm. S. Armstrong, more evidence is given in favor of dilatation as against urethrotomy in the treatment of strictures.

Most of the other papers are reports of special cases. They include cases of "Polypus in the Rectum," "Congenital Phimosis Causing Nervous Phenomena," a case of "Double Ovariotomy, with Death from Tetanus," "Spermatorrhœa," "Reports on Gynecology," etc. The volume contains rather more than the usual number of valuable papers.

Cholera Epidemics in Japan, with a Monograph on the Influence of the Habits and Customs of Races on the Prevalence of Cholera, by D. B. Simmons, M.D., Chairman of the Yokohama Foreign Board of Health, etc. Shanghai. 1879.

In this report and monograph Dr. Simmons has given a very full history of the cholera epidemics of Japan as well as of China. With this are many interesting facts regarding the disease as it appeared lately in the former country, and regarding the effect of particular modes of life upon its course.

Dr. Simmons states that in the epidemic of 1877 in Japan there were 12,378 cases in a population of 32,000,000. Of these cases 52.58 per cent. died. In 1878 there were 975 cases, with 54.56 per cent. of deaths, and in 1879, 164,274 cases, with a mortality of 59.30 per cent. The disease was brought into the country by foreign vessels, and, reaching the seaports, it rapidly developed and spread despite active sanitary measures.

The mode of contagion was chiefly by the poisoning of the drinking-water with excreta or vomit. Contagion was sometimes carried also by moist, heavy vapor from infected sewers or cellars, or by inhalation during the process of washing clothing soiled by choleraic discharges; also by dust rising from the dried evacuations of cholera patients. Dr. Simmons admits no other means, but contends that these are fully established. The treatment employed did not seem to have much effect. The Chinese doctors had about as good success as the regularly educated medical men. Dr. Simmons had used pilocarpin for its action on the kidney, and speaks highly of its efficacy in many cases. Preventive measures, such as secured good drinking-water, isolation, proper food, and proper disposal of excreta, were very efficient in limiting the disease. Disinfectants are not rated very highly. The author gives some curious facts regarding the mode of obtaining drinking-water and of disposing of excreta among the inhabitants of India, China, and Japan. The natives of India will not use latrines. More than 150,000,000 of people, therefore, in that country, deposit their evacuations on the ground. Their drinking-water is obtained from wells, tanks, and streams, each of which is liable to infection. These habits are the chief causes, when taken in connection with the religious pilgrimages, of the existence and rapid spread of the cholera.

In China, on the other hand, the excreta are deposited in boxes; these are cleaned daily, and the contents taken by the scavenger to be used as manure. There is, in consequence, very little danger of contamination of drinking-water; and to this custom of caring for the excreta, and of using better drinking-water, Dr. Simmons ascribes the comparative immunity of China from great cholera epidemics, in spite of its proximity to India.

The Japanese use as latrines tanks sunk in the ground. These very often leak, and thereby poison the soil and the drinking-water. The Japanese are less careful than the Chinese, though vastly more than the Indians.

Dr. Simmons' report contains numerous statistical tables, maps, together with much historical matter, all compiled evidently with great care and labor. He is to be complimented on having furnished a valuable contribution to sanitary science and epidemiology.

Transactions of the Medical Association of the State of Missouri. Twenty-third Annual Session, Carthage, May 18, 19, and 20, 1880.

This volume, though small, contains several articles which have been pretty extensively noticed during the past summer. Among these are Dr. Engelmann's article on "The Dangers that Accompany Uterine Manipulations." It represents much research, and is an important contribution to gynecology. Dr. Todd's paper on the "Dry Method of Treating Discharges from the Ear" deserves attention also. The address of the President, Dr. Maughs, on "Medical Ultraisms," contains some very sharp hits on certain medical fashions and the vagaries of specialists. The Report on Medical Education may have been written with the best intentions, but it is an extremely weak document, viewed from any point except that of an advertisement of the seven medical schools of Missouri.

Transactions of the Iowa State Medical Society, Vol. IV., 1879–80.

This volume has some peculiar features in it which lend considerable value to what, as a whole, is rather commonplace. There are, for example, a number of excellent lithographs of deceased members of the Society, and the necrological department, in consequence, makes quite a fine appearance. The book contains also a complete list of the members of the Society, the constitution and by-laws, and the medical laws of the state, including the recent one for regulating the practice of pharmacy. The proceedings of the Society at its meeting in June, 1879, and in January, 1880, are included in this single volume. There are eighteen papers, and, as representing the work of the Society for two years, they do not make a very rich display.

A Contribution to the Study of Inflammation, as Illustrated by Induced Keratitis. By W. T. Councilman, M.D. Prize essay of the Baltimore Academy of Medicine.

We can strongly commend this essay, both as showing careful original work and a clear and concise method of presenting it. Dr. Councilman's investigations lead him to disagree with Stricker's theory, that the corneal corpuscles proliferate into "wander-cells." He believes that these latter cells come from the blood-vessels, and that the corneal corpuscles in proliferating only reproduce cells of their own kind, never pus-cells.

Dr. Councilman describes what he sees with powers of a thousand diameters. This, together with some of his diagrams, lead us to think that his conclusions cannot be considered final, though he makes out a strong case.

Den Miasmatiskt-Kontagiösa lungsotens och den kroniska lunginflammationens verkliga orsaker och medlen att förebygga dem. Af Med. Dr. Fredrik Eklund, Forste Bataljons Lakare vid Kongl. Flottans Station i Stockholm. Stockholm, 1880. 12mo, 16 pp.

The True Cause of Miasmatic Contagious Phthisis and Chronic Pneumonia, and Means for their Prevention.

The author, stationed at Stockholm, has at his disposal an immense amount of material obtained from the royal navy. He regards phthisis sputa, to a certain extent, as the true expression of the morbid phenomena occurring in the lungs. He finds that the former contains three specific and characteristic cell-forms, which are numerous in exact proportion to the gravity of the case. These are: 1st, small, round, lymphoid cells, usually completely filled with phthisis bacteria; 2d, round cells with from three to five nuclei; these cells are about the size of pus-cells or white blood-cells, and either filled completely, like those under No. 1, with phthisis micrococci, or containing only a few (2–3–5) of the latter; 3d, elliptic and oval cells, narrower but longer than those described under No. 2, but containing the same number of bacteria as the latter. These bacteria are called "Micrococcus Phthisis Dryotemenos." The author instituted many experiments and examinations to assure himself that the above-described cells did not occur in the secretion of the salivary or other glands, or in the mucous membranes of healthy persons or of those otherwise affected. All the observations were made with Vérick's objective No. 8, eye-piece No. 3, with the tube drawn out full length.

The author procured specimens of earth, mud, and water from districts where phthisis prevailed, as well as decomposing vegetable and animal matters from low marshy places, and constantly found in them micrococci which were in all respects identical with phthisis bacteria. He therefore considers tubercular phthisis a miasmatic disease as well as a contagious one, and that the above described cells, floating in the air, constitute the contagious principle.

The preventive measures consist in drainage, ventilation, cleanliness, dryness, etc.

Correspondence.

HYSTERO-EPILEPSY OR HYSTERIA MAJOR.

To the Editor of The Medical Record.

Sir—After reading in your journal the interesting letters of Dr. Morton, from Paris, on the above subject, and by way of answer to the doctor's query, "Where are our hystero-epileptics in America?" I will report the following case, which will indicate where, at least, one of them may be found:

Ella C——, aged twenty years, single, domestic, was admitted September 8, 1880, supposed to be suffering from acute melancholia. Very little of her history could be obtained, and the cause of her insanity, as well as its duration, was unknown.

There was much cerebral excitement accompanying her delusions, which were of an unusual character. To her nothing was real. There were no people, no houses, no world. If asked about her appetite—there was no food. If how she slept—there was no sleep. Her expression and tone of voice, as well as delusions, indicated utter despair. Her general health was not much impaired—tongue slightly coated, appetite capricious, bowels regular, heart and lungs normal; urine, specific gravity 1020, non-albuminous and precipitating phosphates by heat. Began menstruating day after admission. She was soon placed on tinct. cinchon. co., and bromide potass., gr. xx. t. d., with manifest improvement, after a week, in both mental and bodily symptoms.

Nothing peculiar occurred in her case until October 7th, when I was hastily summoned and found her lying on the floor, with head strongly retracted, neck rigid and swollen, face slightly congested, eyelids tightly closed, body contorted, and extremities executing the most varied and violent movements. At the same time she was directing the nurses to do this and that for her, and frantically calling for water, which, when given, was swallowed in small quantities and with the greatest difficulty, owing to the trismic condition present.

It required but a moment to see that at least the so-called hysterical element was prominent, and with the thought, I dashed some cold water in her face. She gasped, and with it disappeared all active movements, but the relief was only momentary. As soon as she was placed on the bed the contortions were repeated. There was a brief period of tonic spasm, or "tetanic rigidity," when the head was thrown back, and the body became opisthotonos. Noticeable features at this moment were the swelling and widening of the neck, and the bulging, if I may so express it, of the abdominal walls. Then followed the clonic stage, when her floundering became most extravagant, requiring four attendants to keep her on the bed. Her eyelids were again firmly closed, and she cried that her eyes were "bursting." The lips were soon covered with frothy mucus.

I succeeded, with difficulty, in giving a hypodermic injection of one-fourth grain morphia, but it was of no avail. Cold water, though frequently thrown in her face, had lost its effect.

The paroxysms were rapidly repeated, each lasting from three to four minutes, while the interval of repose was not more than half a minute. There were brief periods of entire loss of consciousness.

The temperature and pulse, though not accurately taken, seemed but little affected.

It now occurred to me to try the procedure of Charcot which I had formerly seen described in his clinical lectures. Therefore, finding that there was great sensitiveness in the left ovarian region, I made firm and deep pressure during a seizure, with my thumb and first finger at a point about three inches within the left anterior superior spinous process. The effect was instantaneous. Complete relaxation followed, though consciousness was not immediately restored. Removing the thumb and waiting but a moment, convulsive movements again succeeded, which were again arrested by compression.

This experiment was made again and again, until there was left no doubt that the seizures were completely controlled by the pressure.

It was interesting to observe the facial expression during compression. At first it appeared to give her intense pain, but the deeper the thumb passed the greater was the relief, until the face wore a complacent calm. Steady pressure was maintained about twenty minutes, a hypodermic injection of three-eighths grain morphia given, and a belladonna plaster applied over left ovary.

She rested for some hours, but had a light attack the same evening.

About a week subsequent to the above, when she seemed nearly as well as at any time since admission, an attempt was made to artificially induce a seizure, which would have been entirely successful had it been carried far enough. While she lay upon the bed I made gentle pressure in the same iliac region, when immediately ensued all the symptoms which announce an attack—abdominal spasm and distention, frequent attempts at swallowing, rolling of the eyes, facial grimaces, and momentary loss of consciousness. But removing the thumb at this instant, before the convulsive stage was inaugurated, she quickly recovered, and looked about confused and bewildered. Had the fit become fully established I would merely have increased the pressure instead of suspending it.

Since the above date (October 7th) she has had four or five light attacks, differing materially from the severe and prolonged series above mentioned. Fifty grains bromide of potassium have been given her two hours after breakfast, and thirty grains of the same bromide with fifteen of chloral hydrate at bedtime. Cantharided collodion has been painted a few times over the left ovarian region.

Her mental agitation and apprehension are much less than formerly, and her delusions, while they have not entirely disappeared, are rarely repeated.

Paralyses or contractures have not been observed, though left hemianæsthesia is marked. Catamenia have been regular. There are no evidences of specific taint.

SAMUEL AYRES, M.D.,
Assist. Physician Western Penn. Hospital for Insane.

DIXMONT, PA., November 27, 1880.

New Instruments.

A CELLULOID CANULA FOR INTRA-UTERINE INJECTIONS.

By J. D. TRASK, Jr., M.D.,
ASTORIA, NEW YORK.

THE necessity of thoroughly washing out the uterus in some forms of disease met with in the lying-in is admitted by those having the most experience.

The canula used for this operation should be so constructed as to render the introduction of air into the uterine cavity during the operation *impossible*.

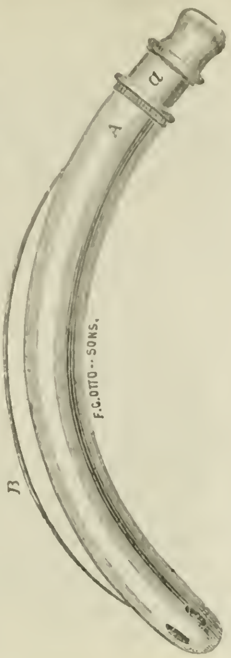
There should be ample provision made for the reflow of the fluid in those instances where the uterus is liable to contract upon the instrument, as in cases of post-partum hemorrhage where astringent injections are used.

The material of which it is made should be non-absorbent, and its shape should be such as to render its introduction safe and easy.

Not being able to find an instrument that answered these requirements, I had Messrs. F. G. Otto & Sons make for me the one here represented.

It consists of two canulas, *A*, *a*, the inner one, *a*, fitting snugly though moving freely within *A*. The distal end of *A* is rounded and perforated, while the inner tube is made to fit down upon its "valve-seat" in the extremity of *A*.

B is a guard sprung from one extremity to the other, so as to prevent the uterus grasping the instrument, and thereby cutting off the escape of the injected fluid.



The instrument is placed in a basin of water and the inner tube withdrawn a short distance, so that any air it may contain shall be expelled. The tube of the (previously filled) fountain syringe is slipped over the shoulder of the inner tube *a*, and *a* is firmly pushed down upon *A* valve-seat. This part of the operation must be done under water. We now have the instrument "loaded," ready for introduction, and it does not contain any air. When the canula is introduced within the uterus, the inner tube is withdrawn a short distance and the injection flows out through *A*.

By the use of this instrument the danger from the introduction of air is avoided. There is ample provision made for reflow. The material of which it is made is a very great point in its favor; celluloid being as light as meerschaum, as strong as brass, and susceptible of very high polish. It is not acted upon by any agent liable to be used as an injection. It should not, however, be put in boiling water, as that renders it pliable.

The cut does not give a correct impression of its proportions. The tube *A* is five-eighths of an inch in diameter and twelve inches in length.

LOCAL MEDICATION OF THE DEEP URETHRA.

By CHARLES L. MITCHELL, M.D.,

PHILADELPHIA, PA.

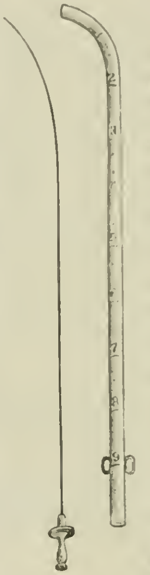
It is a fact recognized in all modern works on urethral diseases, that in the majority of cases of long-standing gonorrhœa or gleet the inflammation is located in the deeper portions of the urethra.

Bumstead and Taylor, in their work on "Venereal Diseases," p. 39, speak as follows: "We have reason to believe that in the course of an attack of gonorrhœa the disease gradually extends from the outer to the deeper portions of the canal, *and it is in this latter situation that it is prone to lurk for an indefinite period.*"

Otis ("Stricture of the Male Urethra," p. 14) says: "In cases of long-standing gleet the discharge is often found to proceed chiefly, if not wholly, from the deeper parts of the urethra, the bulbous and even the prostatic portion." Again, in prostatorrhœa, spermatorrhœa, impotence, etc., a similar condition is noticed. According to Dr. S. W. Gross, "hyperæsthesia in the curve of the urethra, which embraces the prostatic and membranous regions, and the portion one inch anterior to the triangular ligament, is always found."

Exploration of these regions with the bougie-à-boule will discover great tenderness, and the head of the instrument will, on withdrawal, very often be found coated with muco-purulent matter.

In the treatment of all these cases it has been deemed of great importance to bring the diseased localities under the direct effect of various remedies, those of an astringent, stimulating, or sedative character being generally preferred. The agent most employed for making these applications is the ordinary urethral syringe, but, when used, it generally fails in reaching the deeper portions of the channel and producing a beneficial result. I can do no better than quote again from a very high authority on this point (Bumstead and Taylor, p. 93). "In the ordinary method of injecting the male urethra it is difficult to make the fluid pass through the whole extent of the canal into the bladder. After a certain portion (about half an ounce) of the contents of the syringe has been injected, the remainder escapes above the piston, or, however tightly the glans may be compressed around the point of the instrument, flows from the meatus. The obstruction to the entrance of the fluid is due to the contraction of muscular fibres (the compressor urethræ muscle) which surround the membranous portion and serve as a sphincter to the urinary canal; *and this is the posterior limit of the application of the fluid to the urethral walls by the more common method of injecting.*" In order to reach these deeper and more inaccessible parts it is therefore necessary to make use of either the deep urethral syringe (of which there are several varieties) or the cupped ointment sound. While acknowledging the value of these instruments, the writer wishes to call attention to a new instrument and method for making applications to the deep urethra, particularly the prostatic region, and which will far surpass in favorable results the advantages heretofore obtained by any other method of local medication.



The instrument (see cut) consists of a canula ten inches long, of the calibre of a Number 20 sound (Fr. scale), bent to a Thompson's curve and graduated to a scale of inches, commencing at the vesical extremity. Through this canula plays an elastic steel stilette, tipped at one end with a probe-point, and forming, when fitted into the tube, a rounded and smooth extremity. With this instrument is used a series of small, soluble bougies or suppositories about an inch and a half long and of suitable diameter to slip easily through the tube.

These bougies are best made from gelatin and glycerine. This compound offers the advantages of ready solubility and great flexibility, thus allowing the bougie to pass through the curve of the canula with ease. Cacao butter can also be used as a vehicle should the nature of the medicament be such as to forbid the employment of gelatin. It cannot be used alone, however, as it would make a stiff, brittle suppository, and one which could not be forced through a curved tube. It must accordingly be kneaded in a mortar with a suitable quantity of powdered gum tragacanth and glycerite of starch until a flexible mass is obtained. This is then properly medicated, rolled out on a pill tile or slab into thin pipes, and cut to a suitable length. This compound is only adapted for extemporaneous prescriptions, as it will not remain soluble or flexible and must be used while fresh; on the other hand, the gelatine mixture will keep in good condition for a long while.

The medicating ingredients used in these bougies are sulphate, acetate and chloride zinc, acetate lead, tannic acid, iodoform, sulphate morphia, extracts of belladonna, opium, hyoscyamus, gelsemium, hydrastis, and ergot, carbolic acid, liq. iodinii comp., etc., and can be varied in strength to meet the indications of the case.

The method of applying the bougies is as follows: The particular spot desired to be treated having been ascertained by the bougie-à-boule, or other convenient means, and its distance measured from the meatus, the bougie-carrier is passed into the urethra until its extremity reaches the desired place, this being ascertained by the graduation on the instrument. The tube is then steadied, the stilette withdrawn, a soluble bougie, well oiled, placed in the end of the canula and then forced down with the stilette until it is ejected from the instrument into the urethra. The whole operation need not take a minute. The patient should be instructed to pass his water a short time before the introduction of the instrument, so as to allow the bougie as long a time as possible to act before being washed away by the urine. No other precaution need be observed, and he may go about his business as usual. These applications may be made daily, or every alternate day, as thought best.

This method claims the great advantages of locating the remedy at one particular place, and *direct* and *prolonged* action, the bougie gradually dissolving, and thus exercising a continuous effect for a long period. The use of these bougies has met with great success, and I confidently believe that by their employment the surgeon will be greatly assisted in the treatment of many very difficult and annoying cases. While not in any wise advocating the disuse of other long-tried and well-known methods of procedure, I hope this plan of treatment will be recognized as a far superior agent, and an important and useful factor in bringing about a successful result.

839 Race Street.

ARMY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from December 12, 1880, *to December* 18, 1880.

Benham, R. B., First Lieut. and Asst. Surgeon. Relieved from temporary duty at Fort Snelling, Minn., and assigned to duty at Fort A. Lincoln, D. T. S. O. 165, Department of Dakota, December 8, 1880.

Medical Items and News.

Contagious Diseases — Weekly Statement. — Comparative statement of cases of contagious diseases reported to the Sanitary Bureau, Health Department, for the two weeks ending December 18, 1880.

Week Ending	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Cerebro spinal Meningitis.	Measles.	Diphtheria.	Small-pox.	Yellow Fever.
Dec. 11, 1880.	0	13	151	3	29	167	10	0
Dec. 18, 1880.	0	18	180	2	28	166	5	0

Student Riot in Philadelphia.—It may be remembered that last spring, when the Medical College of the University of Pennsylvania held its commencement, the ceremonies were greatly disturbed and interrupted by the demonstrations of the academic students of the same university. Last week, on Thursday, the medical students had their revenge. The sophomore class of the university prepared, on the evening of that day, to go through the mock ceremonial of "burying the syllabus." The cremation exercises occurred on the campus, and the students arrived on the spot about 9.30 o'clock, accompanied by an escort of fifty policemen, as it had been hinted during the day that the medical students would break up the exercises. When the sophomores, to the number of fifty, arrived on the ground, they found a gathering of several hundred medical students and others. As the ceremonies went on the audience did their best, by hooting and various derisive noises, to make everything ridiculous. Some attempts were made also to break through the ropes and stop the exercises altogether. This finally ended in a general *mêlée* between medical and other students and policemen. Pistols were fired, stones thrown, and clubs freely used. A good many were injured, though none seriously so, unless it was a young dental student who was shot in the thigh. Ten medical students were arrested and three policemen sent to the hospital. The affair caused great excitement in West Philadelphia.

It is claimed that the trouble was due to the fact that the academic students had notified the police of a possible row, and that these policemen initiated the quarrel by their unnecessary use of clubs and pistols.

The action on the part of the medical students cannot be justified, but it must be admitted that the provocation given by the occurrence of last spring was very great.

The University Medical College is one of the best and highest in standard in the country. It deserves some respect, therefore, from the academic department, which, as a classical college, rates among the lowest.

A Cargo of Small-Pox.—One of the Anchor Line steamers arrived at this port recently with 750 steerage passengers, mostly Italian lazzaroni, on board. At quarantine the health officer found that two of these passengers had small-pox, and two others had had it. There had been no attempt at isolation or vaccination, consequently the whole crew had been more or less exposed. The sick cases were at once removed to the Small-pox Hospital on Blackwell's Island. The rest of the passengers and crew were at once vaccinated, and then, as fast as accommodations could be prepared, were transferred to Hoffman's Island. There they were obliged to surprise their systems with a bath, and their clothes and persons were disinfected. They were kept in quarantine on this island until the vaccinia appeared, and all danger of small-pox developing appeared past.

A Royal Medal of the Royal Society has been conferred upon Mr. Lister in recognition of his important services in physiology and surgery.

Scarlet Fever is very prevalent throughout England.

The Death of Dr. Alfred Hudson, of Dublin, at the age of seventy-two, is announced. Dr. Hudson made many valuable contributions to medical literature during his lifetime, and had, at his death, a reputation scarcely second to that of his late townsmen, Dr. Stokes and Sir Dominic Corrigan. Says the *British Medical Journal*, it was he who first gave a rational explanation of the phenomenon of tympanitic resonance over a solidified lung. To him also was probably due the discovery of the value of vocal fremitus as a diagnostic sign, and by his teaching he did much to elucidate the facts which make the now generally recognized distinctions between typhus and typhoid fever.

Guy's Hospital has 180 beds closed, and there is a deficit of $50,000 in its treasury. Dr. Hilton Fagge and Mr. Davies-Colley have been elected to the vacancies caused by the resignations of Dr. Habershon and Mr. Foster.

Nomenclature of Diseases of the Royal College of Physicians.—A committee of thirty, including some of the most prominent medical men of London and vicinity, has been appointed to superintend the decennial revision of the nomenclature of diseases. It may be remembered that the National Board of Health has appointed a committee to confer with the one just appointed by the Royal College.

The American Public Health Association and the Prevention of Venereal Diseases.—A committee was appointed by the American Public Health Association, a year ago, to investigate and report upon the subject of venereal diseases and the means of preventing their spread. This committee made its report through Dr. Albert Gihon, U.S.A., at the recent meeting of the association in New Orleans. The committee asserted their belief in the efficacy of regulating prostitution, but they would not recommend the measure at present. They said that as a safeguard and warning everybody should know the following facts—that venereal diseases are communicable :

1. By the blankets, etc., of a sleeping-car, and the sheets, towels, and napkins of hotels and restaurants.
2. By the dresses, costumes, etc., rented for fancy balls.
3. By the chipped edge of the coffee-cup ; and by the half cleaned knives, forks, and spoons of restaurants and hotels.
4. By the drinking-vessels in a railway car or station.
5. By barbers' utensils—brush and comb ; by hatters' measure or by a borrowed or sample hat.
6. By surgeons' or dentists' instruments ; by the vaccinator or lancet.
7. By toys sold to children by venders who have been handling them with poisoned lips or fingers.
8. By the broom or dust-brush handled by the housemaid, or by the spoon fouled by the mouth of the cook.
9. By playing-cards and visiting-cards which have been used by syphilitics ; by car-tickets and paper money which circulates in a city where there are many syphilitics.
10. By the pipe, cane, or glove loaned to a friend.
11. By the grasp of a friend's hand or the kiss of an accepted lover.

In view of this alarming state of things the committee reported the following resolution, which after some debate was adopted by the Association :

Resolved, That the American Public Health Association earnestly recommend the municipal and state boards of health to urge upon the legislative bodies of this country the enactment of a law constituting it a criminal offence to knowingly communicate, by any direct or indirect means, a contagious disease, such as small-pox, scarlet fever, or venereal disease ; and giving to said boards of health and to the state and municipal health officers under their control the same power in the prevention, detention, and suppression and gratuitous treatment of venereal affections which they now possess in the case of small-pox and other contagious diseases.

Hospital for Incurables.—Henry C. Gibson, Esq., a well-known citizen of Philadelphia, has made a donation of $50,000 to the Incurable Ward of the Hospital of the University of Pennsylvania. A ball on a large scale will soon be given by the leaders of Philadelphia society for the purpose of raising additional funds for this laudable object.

Buchanan's Penalty.—The bogus diploma vender, John Buchanan, has been sentenced to pay a fine of $500 and to undergo imprisonment for ten months in the penitentiary, for endeavoring to defraud the United States Government of his bail by pretending to have committed suicide by drowning. This penalty has nothing to do with other crimes for which Buchanan was arrested.

American Social Science Association—Health Department.—At a meeting of the Council of the American Social Science Association, held in New York on the 10th inst., the Health Department was reorganized with the following list of members: Walter Channing, M.D., Boston, chairman ; E. W. Cushing, M.D., Boston, secretary ; E. M. Hunt, M.D., Metuchin, N. J. ; Horatio Bridge, M.D., Chicago, Ill. ; Prof. W. H. Brewer, New Haven, Conn. ; J. C. Hamilton, M.D., Mobile, Ala. ; Geo. E. Waring, Jr., Newport, R. I. ; Emily Pope, M.D., Boston ; J. S. Billings, M.D., Washington, D. C. ; S. B. St. John, M.D., Hartford, Conn. ; David Hunt, M.D., Boston ; Charles B. White, M D., New Orleans, La. ; D. F. Lincoln, M.D., Geneva, N. Y. ; Mary Putnam-Jacobi, M.D., New York ; Henry B. Baker, Lansing, Mich. ; John Rausch, M.D., Springfield, Ill. ; Elliot C. Clarke, Boston ; E. C. Seguin, M.D., New York ; Dr. Plummer, San Francisco, Cal. ; A. N. Blodgett, M.D., Boston ; C. F. Wingate, New York ; Elisha Harris, M.D., New York.

Dr. Antonio G. de Tejada died after a short illness, at his late residence, No. 54 West Thirty-fifth Street, in this city, December 12th. He was born in Carthagena, United States of Colombia, in 1845. His father, Rafael G. de Tejada, was a merchant in the Spanish trade in that city, who came to this city in 1855 and began business in Front Street. He died two years later. Dr. de Tejada was educated in St. John's College, Fordham, and subsequently followed a course of study in Bellevue Hospital Medical College, from which he was graduated in 1872. He was unmarried, and lived with a widowed mother and four sisters.

Dr. Pepper Nominated for Provost of the University of Pennsylvania.—The trustees of the University of Pennsylvania have placed Dr. William Pepper, Professor of Clinical Medicine, in nomination for the provostship of the University. The nomination lies over for a month, but there is no nominee in opposition to Dr. Pepper.

Death of Dr. W. T. C. Glazier.—We regret to announce the death, on December 12th, of Assistant Surgeon W. T. C. Glazier, U S.M.H.S. Dr. Glazier died at his post in Key West, Fla., of yellow fever. He was born in 1839, at Erie, Pa., and graduated in medicine at the College of Medicine and Surgery, Cincinnati, in 1871, and at the University Medical College, New York, in 1876. He was acting assistant surgeon U.S.A. from August, 1872, to November, 1875, being post surgeon at Fort Ellis part of that time. He was appointed on the Marine Hospital Service in 1878. Dr. Glazier lived in this city for several years and was well known to the profession here, where he was very much esteemed. During his stay in New York he assisted Dr. Stephen Smith in the preparation of his "Manual of Operative Surgery," collecting material and contributing many of the illustrations. Since leaving New York he had been engaged in working up the subject of "Trichinosis," and his completed monograph has just been given to Congress for publication. It is said to be the most exhaustive article upon the subject that has yet appeared in this country, and contains the results of much original work. Dr. Glazier was a person of much energy of character, industry, and executive capacity. When a boy he had very slight educational advantages, but his industry and ambition atoned for this, and at his death he was the superior of most professional men in general and medical attainments. In his personal character Dr. Glazier was above reproach. He was a genial companion, a true friend, and upright man. He died of the pestilence while in discharge of his duty. His death is an untimely loss, which will be widely and sincerely lamented.

Injection for Gonorrhœa.—Dr. W. Thornton Parker, of Plymouth, Mass., writes to us extolling the following as an injection for gonorrhœa: ℞. Zinc. sulphocarbolat., ʒ j.; aqua, ℥ vi.; mucil. acacia, ℥ j.; ext. opii. aq., ℈ j. Use night and morning.

American Students Abroad.—Thirty-eight out of ninety-five foreign students at the University of Vienna, during the past summer, were Americans.

Small-pox has been increasing of late in London.

Typhoid Fever has been alarming the inhabitants of Montreal. There have been over 100 cases there at a time.

Guy's Hospital.—Dr. Habershon and Mr. Cooper Foster have at last sent in their resignations as members of the visiting staff of Guy's Hospital. Their letters of resignation are dignified in tone and are accompanied with a protest against the nursing system as it now exists at the hospital. The resignations were given so late that the sympathy with these gentlemen will not be as full as it might have been.

Auscultatory Percussion.—This subject has been revived by Dr. T. A. McBride, in the *Archives of Medicine*. He has devised an instrument made of hard rubber, and in shape something like the ordinary common stethoscope without the mouthpiece. With this placed in the ears, percussion marks out the boundaries of the different viscera very accurately so far as has been tried. Its chief superiority over Camman and Clark's old instrument is that it can be used by one person alone.

A Case of Congenital Absence of the Spleen is related by Drs. Kods and Wachsmuth. The man had lived to the age of forty-nine years in good health. The other abdominal viscera were normal. The patient died of typhoid fever.

Climate-Cure of Phthisis.—Several interesting cases have been reported by Dr. Prosser James, which show very strikingly that there is no single best climate for phthisis cases. Indeed, they rather indicate that the chief factor in climate therapeutics is the change. The histories of five cases are related: in each case the patient went to another climate than that ordered for him as the best one, and in each case there was great improvement or entire cessation in the progress of the disease.

A Memorial in Favor of Cremation, signed by over one hundred members of the British Medical Association, has been presented to the Home Secretary. The memorialists state that they disapprove of the present method of burying the dead, and pray that the government will not oppose the practice of cremation when it is done under proper restrictions.

Phosphorus as a Preventive of Congenital Malformation.—A correspondent of the *British Medical Journal* writes that he had attended a young married lady in three successive confinements. Each time the mother gave birth to a child more or less malformed, having club-feet, twisted hands, spinal curvature, etc. The lady came to him again in despair saying that she was pregnant for a fourth time, and begging him to do something for her. He put her upon a preparation of phosphorus, and a healthy, well-formed child was born in due time. The phosphorus was then discontinued, but, as lactation failed to appear, the drug was resumed. Milk was then secreted in abundance and of good quality. On the occurrence of a fifth pregnancy the phosphorus was ordered again, and with the same results. The idea of giving the drug was suggested by the reports of its success when given to mares which threw malformed foals.

Poisoning by Chlorate of Potash.—The Marseilles *Médical* relates a case of poisoning by chlorate of potash. An elderly man took by mistake for epsom salts thirty-five grammes of chlorate of potash. The death, which followed in seven hours, was preceded by the following symptoms: vomiting, colic and diarrhœa, general weakness and rigidity of the limbs. After death the stem of the dorsal regions presented a slate-colored appearance.—*Med. Press and Circular.*

Death of Professor Dumreicher.—On Friday, December 3d, was laid to rest, in the cemetery of Gratz, a shining light in the world of medicine. But a few weeks have passed since mother earth took back to her bosom Professor Skoda, one of the pillars of the new Vienna Medical School; and now she has claimed another great ornament of the faculty. Professor Dumreicher, the founder of a school of surgery which for many years will bear his name, has died in harness. The other great wielder of the healing knife in Alma Mater Rudolphina (as the Vienna University is called) is Professor Billroth, still in the enjoyment of perfect health. Every surgical "alumnus" who has risen to fame hails from one of these two schools, whose chief difference consists in the after-treatment of wounds. Signs that his nervous constitution was seriously beginning to suffer under the stress of work had not been lacking for some time past, and even twenty years back did Skoda diagnose a "vitium cordis" in his colleague. But the temptation to go on working when once a high position had been won proved irresistibly powerful, and now we hear that the hard-worked Esculapian has succumbed to nervous affection connected with the old heart-ailment which for so many years warned him not to overexert himself. It was but a few weeks ago that Professor Dumreicher, giving way to the entreaties of his family and friends, consented to pass a short season of "villegiature" on his estate in Dalamatia. But he must have felt even then that it would soon be all over with him, for he insisted on being accompanied to the distant coast-lands by his whole family. His forebodings have proved but too well founded, for last week the great surgeon breathed his last, surrounded by those dear to him. A year ago a patient called on the professor and received the following opinion: "My dear Herr H——," said Dumreicher, "you and I have the same complaint. We are booked. It is but a matter of time with us; and, as you insist on knowing the truth, not a very long time either!" Herr H—— died on the same day as Dumreicher!—*London World.*

Report of the Night Medical Service for November.—At the meeting of the Board of Health, December 14th, Dr. Ewing, Executive Officer of the Night Medical Service, reported that thirty-five calls had been responded to during November.

Pleuro-Pneumonia among Western Cattle.—In a communication from the Agricultural Department, transmitted by the President to the senate, the results of an investigation into the amount of pleuro-pneumonia in this country are given. Dr. C. P. Lyman was sent to England to examine the American cattle landed at Liverpool, and see how much contagious disease really existed among them. He found a comparatively small amount, but did find some cases of pleuro-pneumonia. Tracing these back to America, he came to the conclusion that the animals must have brought the disease from some Western centre, and his belief is that the dreaded scourge exists in Chicago, Albany, Buffalo, Boston, and Portland. These conclusions regarding the presence of pleuro-pneumonia among cattle exported to England and among Western herds are stoutly denied by many English and American veterinarians.

Biennial Report of the Vermont Asylum for the Insane, July, 1880.—Dr. Draper makes a rather better report than the average asylum superintendent, though in his remarks on treatment he does not seem to be aware that the subject has been discussed outside of Brattleboro.

The number of inmates of the asylum is 447. The mortality rate has been between four and five per cent.

The percentage of recoveries on admissions is twenty.

A large number of the inmates belong to the agricultural classes. This is considered natural on account of the preponderance of that class in Vermont; still it also shows that even a healthy out-door existence, if it is also a *struggle* for existence, may end in mental disease.

Physicians in Chicago.—There are 409 regular physicians in Chicago in affiliation with the Code of Ethics of the American Medical Association.

The India-Rubber Drainage-Tube as an Adjuvant in Paracentesis Abdominalis.—Dr. William A. Byrd, of Quincy, Ill., writes:

"It is nothing rare for a surgeon, when tapping the abdomen for dropsy, to have the flow of fluid arrested by the omentum, or a portion of the bowel dropping against the internal end of the canula; but I have a case to report that is unique, in my practice at least.

"October 15th, with Drs. M. F. Basset and S. W. Durant, I tapped Henry S——, who had been suffering from general dropsy for over a year, the result of cirrhosis of the liver. The patient had been a large, powerful man before he became sick, and at the time of the operation measured five feet four inches around the most prominent portion of the abdomen. I plunged the trocar into the abdomen at the usual site of puncture, its whole length, which was three and one-half inches, and withdrew the stylet, expecting, of course, a flow of water; instead, only four or five drops of blood issued from the canula. The gentlemen assisting me looked peculiarly, as if they feared it to be a case of "dry dropsy." The patient and his wife were greatly frightened, and I felt very uncomfortable; but, calling for a couple of knitting-needles, ran them through the canula side by side, until the peritoneum was punctured with their conical points. Out came the fluid. The flow was accelerated by crossing the needles in such a manner as to enlarge the opening in the peritoneum as much as possible. The flow was still so small as to be eminently unsatisfactory. Happening to think of a drainage-tube I had in my pocket, with perforations about half an inch apart for about three inches of one end, I took it and turned a roll back, like a coat-cuff, to catch the end of a knitting-needle as a carrier-in, and passed it through the canula into the abdominal cavity; then pushed it on until there was about six inches within the abdominal cavity. The flow was now perfectly satisfactory, and continued until six gallons of fluid were withdrawn.

"Such an arrangement could frequently be made use of to advantage, as the opening in the canula would be kept patulous, and the end of the tube dipping down into the abdomen, and the other end being lowered, a siphon would be formed evacuating the cavity more completely, as well as more rapidly, than in the ordinary manner of operating."

Beriberi.—Dr. E. Hebersmith, in a note to Surgeon-General Hamilton, concerning the cases of beriberi taken into the U. S. Marine Hospital at San Francisco, from the Brazilian man-of-war, says: "It is a disease of faulty hygiene, modified as to its causation by local, climatic, or possibly hereditary influences, producing its effects primarily upon the blood-corpuscles, causing disintegration and death of the red blood-corpuscles, and increase of the white blood-corpuscles. The effects upon the heart and circulation are secondary, as are the effusions; all follow as a natural sequence of the changes in the blood, and the treatment is blood-building. Certainly the success in the treatment of these patients justifies the correctness of the views expressed above. Of the sixteen cases, two died the day after admission, and one on the fourth day. Nine have recovered, and four remain at the hospital convalescent, but awaiting transportation. Some of those discharged run into cold weather on their way east, and I am fearful of the result. As this is a disease prone to relapse, some of the brethren east may have opportunity to study it."

Case of Pernicious Fever in New Jersey.—Dr. A. C. Hoffman, of Jersey City, N. J., after remarking that pernicious fever is of exceeding rare occurrence in northern latitudes, reports the following case:

Matthew M——, laborer, aged thirty-five years, came under observation September, 1879. He was born in New York; during the last ten years had resided in Jersey City; had never been south. About a year ago began working in a damp, malarious region of the country, turning up the soil, etc., for a new road; he soon contracted a quotidian intermittent, of which he had several attacks during the year, but all of mild type. In the latter part of September, 1879, patient one morning while at work had a chill, but not severe enough to cause him to go home; next morning went to work at 7 A.M., but soon began to feel chilly and uncomfortable, vomited, and went home, arriving there at 8 o'clock. In a short time the constitutional symptoms seemed to be all out of proportion to the severity of the chill, the rigor not being severe, but the coldness extreme; the face became of a death-like hue; the patient went to bed. Unfortunately, medical assistance was not procured until nearly 1 P.M. At this time the man was found lying upon his back; there was horrible embarrassment of respiration, it being hurried, irregular, panting, while the restlessness and jactitation was so extreme that the temperature could not be taken. His appearance was strikingly peculiar: the face, hands, and feet being of a livid paleness, the eyes staring, the features shrunk and strongly expressive of intense agony and alarm; the surface, partially covered with a clammy sweat standing out in large isolated drops like bullæ; pulse small and irregular, 115 to the minute; power of speech lost, and considerable trismus, with a thick froth about the fauces. The man was already moribund; however, active measures were at once begun: quinine in sufficient doses was given per orem and retained by the stomach, together with ammon. carb., and a stimulating enema; friction and warmth applied to the surface, cupping over the chest, and blistering by ammonia in posterior cervical region. The muscles of deglutition becoming paralyzed, a hypodermic syringe was employed, quinine being administered thus, and stimulants. All, however, to no purpose; the man was beyond human aid. The breathing became prolonged and stertorous, the pulse lost at wrist and in lower extremities, the limbs powerless, the pupils dilated; deep coma supervened, and death occurred about three o'clock in the afternoon. Autopsy not permitted.

THE RELATIONS OF GOITRE TO PREGNANCY AND THE DISEASES OF THE GENERATIVE ORGANS OF WOMEN.—In an elaborate article read by Dr. Edw. W. Jenks, of Chicago, before the Tri-State Medical Society, the view was maintained that goitre had a close relation with the diseases of the female generative organs. It was shown that goitre occurred much more frequently in men than in women, the proportion given by one writer being 26 to 474. Goitre first appears, generally, at the time of puberty, and the thyroid gland, whether diseased or not, often enlarges at the time of menstruation. The author then cited a large number of facts and cases to show that goitre is due to some derangement of the female generative system, the derangement being oftener functional than structural.

BIRDS OF A FEATHER.—A correspondent of the *Chicago Medical Journal and Examiner* refers to the practice among Boston physicians of living in groups. In one of the streets where the profession thus centres there are sixty physicians within one and a half blocks. The same custom prevails to a considerable extent in this city. There is one of the up-town cross-streets so thickly settled with doctors that it is popularly known as "Pill-row."

A NOVEL OPERATION was recently performed at the German Hospital, Philadelphia. A patient over fifty years of age, who had been suffering for years with trifacial neuralgia and had all the teeth upon one side extracted without relief, came under the care of Dr. Ferdinand H. Gross, one of the attending surgeons at the hospital. It was a very severe case of tic, involving all the three branches of the right nerve. The patient was in almost constant torture from the rapidly recurring pains. By pressing upon the common carotid artery of the right side the attending surgeon found that the pains were controlled, he therefore decided to follow the recommendation of Nussbaum and ligature the main arterial trunk. This operation was accordingly performed by Dr. F. H. Gross, a double ligature being thrown around the right common carotid artery. The patient rapidly recovered and the effect was very marked. Immediate relief from neuralgia was experienced, and although in the course of about two weeks slight twinges were felt there has been no return of the painful spasms. About a month later the patient had an attack of pneumonia, which he attributed to exposure after leaving the hospital, but otherwise his recovery was not retarded, and the relief experienced far surpassed his expectations.—*Clinical News.*

MEDICINE IN ILLINOIS.—The enforcement of the medical registration and license law in Illinois brought out the fact that there were 2,300 men practicing in the state who could not stand the very moderate test of fitness imposed by the State Board of Health.

AN EPIDEMIC OF TYPHOID FEVER has existed in Cook County Hospital, Chicago. There have been about twenty-five cases constantly in the hospital.

HEMIGLOSSITIS.—Dr. S. W. Greene, of Bethel, Vt., writes: "Having noticed the report of a case of inflammation of one-half of the tongue, in your issue of November 27th, I am reminded of an attack of the same affection that occurred in my own person, in November, 1878. The symptoms were a sore throat for a day, followed by great swelling and severe pain in the left half of the tongue. The swelling was so great that scarcely any food could be taken of the simplest liquids. Speech was completely abolished. After suffering two days in the worst way, one free incision was made which was followed by almost immediate relief from pain, and gradual subsidence of the swelling."

A LETHAL DOSE OF FLUID EXTRACT OF ACONITE WITHOUT ANY SERIOUS RESULTS.—Dr. J. C. M. Floyd, of Richmond, Ohio, writes: "Mr. S——, a medical student, picked up a bottle of what he supposed was extract of malt and hops, and swallowed not less than two drachms. He noticed that it did not taste like what he had been taking, so he immediately looked at the label—which he should have done before—and comprehended in a moment that he had taken a deadly poison in sufficient quantity to produce death. He applied to me at once for an antidote. I gave him thirty grains zinc. sulph., and followed it with copious draughts of warm water and sweet-oil, which produced free emesis in a few minutes, or about fifteen minutes after ingestion of the poison. I then gave large quantities of warm salt water and sweet oil, until free emesis was again produced. He then filled his stomach with warm water, and took a teaspoonful of ground mustard. This acted in a few minutes. As soon as he could retain it I gave him an ounce of alcohol, twenty minims fld. ext. ginger, and ten minims fld. ext. digitalis. After an hour and a half, repeated the alcohol. For a few minutes after taking the aconite he could scarcely articulate. The warm water seemed to give immediate relief. The pulse rate was 72, and remained that throughout, but became perceptibly weaker after four and a half hours, at which time the extremities became numb and weak, but it soon passed off. Could not detect any change in the pupils, or any other changes than those already stated. He had eaten breakfast about twenty minutes before taking the aconite, which will partly account for its light action."

College of Physicians of Philadelphia.—At a recent meeting of the College of Physicians of Philadelphia, Dr. S. Weir Mitchell made a donation of $1,000 to be invested for the benefit of the library. It was the desire of the donor that the income be used for the purchase of current medical journals. Dr. Mitchell at the same time presented some interesting photographs of the tomb of Dr. William Harvey, which were appropriately framed. Two of these photographs represent views of the exterior of the church, which dates back to the reign of Henry the Seventh, and one of its interior with the Harvey chapel, a handsome little annex over the Harvey family vault in the northeast corner of the church. Two others represent the front and profile view of the marble tablets or monument containing the bust of Harvey which is erected in the church. The ornamentation of the tablet is bold and effective, and below the bust is a lengthy and appropriate Latin inscription, a fac-simile copy of which Dr. Mitchell obtained by rubbing on tracing paper.

The concluding photograph of the series is a view of the vault and of the sarcophagus containing the remains of Harvey, which was obtained by the aid of the magnesium light. The leaden case or sarcophagus is represented as roughly shaped in the form of the body. The head has the rude outline of a face, with mouth, nose, and eyes; the body is long and tapering toward the feet. The breast plate is broad and the inscription on it is in raised letters: "Docter William Harvey decesed the 3 of Ivne 1657, aged 79 years." A fac-simile copy of this Dr. Mitchell obtained by rubbing.

These additions to the library of this venerable medical body, which was incorporated in 1789, add to its present usefulness, and will stimulate other Fellows to like gifts. The library at present is said to contain over 20,000 volumes, and is yearly increasing. Many volumes are added annually by the Medical Journal Association, a body comprised of Fellows of the college, which subscribes for the current journals and presents them to the college library at the end of each year. This collection of medical works, in connection with the library of the Pennsylvania Hospital, containing about 13,000 volumes, would seem to give our Philadelphia medical brethren an abundance of literature on professional subjects.

Special Medical Schools.—The demand for instruction in special subjects seems to be great in the city of Philadelphia, for during the present winter three new schools have been instituted. Previously there was but one—the Philadelphia School of Anatomy, dating back as far as 1839, and for a number of years past under the care of Dr. John B. Roberts. At the present time, however, there exists the Philadelphia School of Dermatology run by Dr. J. V. Shoemaker, the Pennsylvania School of Anatomy and Operative Surgery of Dr. W. S. Janney, and the Philadelphia School of Ophthalmology, recently started by Dr. P. D. Keyser. These schools are, we presume, adapted for students and for those practitioners who visit the large cities in winter for the purpose of pursuing special studies and investigations. In one at least—the first mentioned—we know that there is given a special post-graduate surgical course.

Dispensaries for Diseases of the Skin.—Patients afflicted with cutaneous diseases should hie at once to the city of brotherly love, where there are no less than three dispensaries for the free treatment of skin diseases, besides the special departments for such cases in a few of the large hospitals. It was the fashion several years since to open dispensaries for diseases of the eye, now it is the proper thing to inaugurate skin dispensaries. What next?

Recovery of Severe Injury of Knee-joint without Antiseptic Treatment.—We have received from Dr. P. M. Chadwick, late house physician of Bellevue Hospital, now of Omaha, Neb., an account of a case of injury of the knee-joint, which he sends us "for the benefit of the anti-antiseptics." W. E. McKee, a barkeeper, received a pistol-shot wound of the thigh June 30th, the ball passing downward and forward to the upper part of the patella; but the bullet could not be found at the time. There was effusion into the joint, with local heat. The patient was ordered to bed, a posterior straight splint applied, and cold compresses ordered. There was no constitutional disturbance, the pulse, respiration, and temperature remaining normal. After a week the wound had closed and the patient was able to be up and about. About three weeks after the injury, while forcibly extending the leg, the patient felt something "give way," and the ball was found at the inner side of the joint. From this situation it was moved to the outer side of the joint, and then it was cut down upon and removed, about three drachms of fluid escaping. The finger was passed into the joint, but no further damage was detected. The wound was closed with a suture, which was removed at the end of the third day, union having taken place by the first intention. The former treatment was resumed; again there was no constitutional disturbance, and the patient made a perfect recovery.

The Death of Dr. Edward Barringer.—Dr. H. N. Battey writes from Vienna: "As no notice of the death of Dr. Edward Barringer seems to have been published in the New York journals, the following particulars which I learned from the consul at Zurich may interest the friends in your city, from some of whom I have had letters of inquiry already, as we travelled in Switzerland together. The accident occurred on the 30th of August, whilst crossing the mountains near Zernetz in company with a number of passengers. By the upsetting of the diligence Dr. Barringer seems to have been thrown out, as the body was found under the wagon. Death resulted from injuries to the head. The remains, I suppose, have been sent to the relatives in Schenectady, N. Y. The effects in Vienna were promptly attended to, and are now in the hands of the consul."

Professor Roberts Bartholow having completed the first Cartwright course of lectures, was on Tuesday evening tendered a reception by Dr. R. F. Weir. President of the Alumni Association of the College of Physicians and Surgeons, New York. A large number of representative medical gentlemen were present and paid their respects to the distinguished guest.

Nux Vomica in Chronic Gastritis and Atony.—In the report of Dr. Da Costa's clinic, page 658, i should be stated that nux vomica was advised in eight-*drop* rather than eight-drachm (!) doses.

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